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CUMBERLAND COUNTY COUNCIL.

EDUCATION COMMITTEE.

REPORT

OF THE

SCHOOL MEDICAL OFFICER

F. H. MORISON, M.D., D.P.H., &c.,

ON THE

Medical Inspection of School Children.

FOR THE YEAR ENDED
DECEMBER 31st, 1927.

CARLISLE :

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CUMBERLAND COUNTY COUNCIL.

To the Chairman and Members of the Education Committee.

MR. CHAIRMAN, LADIES AND GENTLEMEN,

I have pleasure in presenting this my Twentieth Annual Report on the Medical Inspection and Treatment of School Children, that for the year ended 31st December, 1927.

Whilst there is no outstanding feature in the routine work of medical Inspection to which I would specially draw attention, there are three features in the accompanying Report which, I think, are worthy of note :—

- (1) The method of home treatment of certain surgical tuberculosis cases, which has resulted in a considerable saving of money, without interfering with the ultimate result of treatment (see page 26).
- (2) The notes of Tonsils and Adenoids (see page 8).
- (3) The notes on the Treatment of Deficiency Diseases (see page 35 "Special Enquiries," and Appendix B.).

I am glad to be able to record that this experimental work, carried out by various members of the Medical Staff, is not considered a mere "stunt," and that in recognition of the part he has taken in it, Dr. Kenneth Fraser has had the honour conferred on him of being elected a Fellow of the Royal Society of Edinburgh."

I have the honour to be,

Ladies and Gentlemen,

Yours obediently,

F. H. MORISON, M.D., D.P.H.,

School Medical Officer.

I.—STAFF.

With the exception noted in my last Report, viz., the appointment of Dr. Simpson to the Maryport area, no change has occurred in the personnel of the staff during the past five years.

In no case is the full time of any members, either medical or nursing, of the staff given to the School Medical Service. Their time is apportioned as may be necessary between School medical work, tuberculosis, maternity and child welfare and general public health.

There are obvious and distinct advantages in arranging the work on such a basis, not the least of which are that there is no overlapping of duties, and the cost of travelling, which, in such a County as Cumberland, must necessarily be high, is reduced to a minimum.

II.—CO-ORDINATION.

In order that co-ordination may be full and complete, the County is divided into six Medical Areas, with a Medical Officer in charge of each. He is responsible to the School Medical Officer, who is also the County Medical Officer, for the whole of the work in his area, whether it comes under one or other of the following heads:—

- (1) School Medical Work.
- (2) Maternity and Child Welfare.
- (3) Tuberculosis.
- (4) General Public Health.

In this way the completest co-ordination is secured, and any case is easily transferred from one branch to another, without any fear of being lost sight of.

As I have on previous occasions pointed out, the closest possible co-ordination ought to exist between the School Medical Service and the work of Maternity and Child Welfare, because unless there is a thorough and efficient infant and child welfare scheme in operation, an unnecessary burden is thrown on the School Medical Service in the way of treating disease, disease, moreover, which could and should have been prevented had it been possible to examine and treat all children in the age period 1 to 5 years prior to their admission to school,

In those areas where there is a Maternity and Child Welfare Clinic, viz., Penrith, Wigton, Maryport, Arlecdon and Frizington, Cleator Moor, Egremont and Millom, there is close co-operation between the two branches of work. A similar type of record card is used for each clinic, and these are transferred from the Child Welfare Clinic to the school section, when the child starts attending school. In this way it is possible to have many defects attended to early, defects which would, as a general rule, remain untreated till the child was present at its first medical inspection at school.

Later in this Report it will be seen that of the number of children examined for the first time on their admission to school, 20 per cent. require some form of treatment for a definite physical defect. In other words, nearly one in every five begins its school life and its education handicapped by ill-health more or less marked. It must also be remembered that at least double this number, without showing any definite defect, show some departure from normal, sufficient to warrant their being kept under careful observation. We must recognise how serious the problem is.

III.—SCHOOL HYGIENE.

The present is not an opportune time, for financial reasons, to consider in detail the defects, sanitary and otherwise, of the schools. The condition of many of the schools, as regards sanitary conveniences, heating, lighting and ventilation, etc., are such, however, that as soon as financial circumstances will allow, the whole question will require serious and careful consideration.

In the meantime only some of the more serious defects are notified to the Director of Education, who readily helps in every possible way.

IV.—MEDICAL INSPECTION.

For administrative purposes the County is divided into six areas, each in charge of one Medical Officer.

No changes have taken place in administration during the year.

AGE GROUPS OF CHILDREN INSPECTED.

The children inspected fall into the same groups as in previous years, viz. : (a) Code groups, including Entrants, Intermediate (8 years of age) and Leavers (12 years of age and over) ; (b) "Specials," *i.e.*, children of any age not being code or routine cases ; and (c) Re-examinations, *i.e.*, children who for any reason it is considered advisable to examine more than once in the year.

The number coming under each group will be found in Table I. at the end of this Report.

The Board's schedule has been adhered to, with the slight exception noted in the report for 1921.

V.—FINDINGS OF MEDICAL INSPECTION.

In Table II. will be found, set out in detail, the number and class of defects noted. In considering this, however, it must be remembered that in a great many instances more than one defect is found in one child, and whilst each defect is counted in the total number found (see Table II.A.), the number only of children examined is given (Table II.B.) irrespective of the number of defects from which any child may be suffering.

The number of children in the Code groups, 7,862, found on medical inspection to require treatment (apart from uncleanness and dental defects) was 1,547, or 20% of all those inspected.

Of course, the number of "Specials" requiring treatment is much larger than this, because they are selected for examination, either by the Head Teacher, the Attendance Officer, or the Medical Inspector, on account of their unhealthy appearance, suggesting that they are suffering from some defect.

In the Code groups it will be noted that while 20% of Entrants required treatment, 22% of Intermediates and 17% of Leavers also required treatment.

Although these percentages are higher by 3, 1 and 3 per cent. respectively, than the figures in the previous year, they are lower by 3, 2 and 7 per cent. respectively than those given for England and Wales (excluding London) in the latest report of Sir George Newman to the Board of Education.

In my last report, in commenting on even the lower figures, I said "the remedy for this state of affairs I believe to be in more efficient maternity and child welfare schemes, and education of parents, more especially with reference to the diet of their children."

The vast majority of Entrants to our schools in 1927 would be born in 1922, and I find that in the year 1922 the infant mortality in the County was the highest recorded since 1919. A high infant mortality means, as Sir George Newman has so often pointed out, as well as the loss of many infant lives the maiming of many of the surviving children, for conditions which kill some, maim many others, it also means a high death-rate, and a high sickness rate during the next four years of child life.

Therefore, if we have a high infant mortality rate in any given year, as we had in 1922, we may expect to have, as indeed we have had, five years afterwards, a high percentage of defective children as Entrants to the schools.

Hence the necessity for intimate co-ordination between a Maternity and Child Welfare Scheme and the School Medical Service.

My view of an efficient Maternity and Child Welfare Scheme is one which not only pays attention to the child during its infancy, but also makes adequate provision for the periodical and thorough medical examination of all children, at least once every year, but better still, every six months; not so much with the view of detecting disease, but of maintaining health, and treating the earliest manifestations of the slightest departure from health.

If this were done efficiently, I have no doubt that the expenditure involved would be amply repaid by the better health of Entrants to the schools, as well as by a direct saving of money on the treatment of school children who should never have been allowed to become "defectives."

REVIEW OF THE FACTS DISCLOSED BY MEDICAL INSPECTION.

(a) *Uncleanliness.*

During the year 307 cases of uncleanliness were reported by the Medical Staff, equivalent to 1.5 per cent. of the total number of children examined. It is gratifying to be able to record that the improvement noted in former years is not only maintained, but even slightly improved.

That this improvement is not due to a "clean-up" for the Medical Inspection, is shown by the fact that the school nurses paid 737 visits to schools (apart from Medical Inspections). At these visits they made 53,535 examinations, and found 805 dirty or verminous conditions in the children. A percentage of 1.5.

(b) *Minor Ailments.*

The total number of minor defects noted is 77 in excess of that noted the previous year, viz. : 2,248 against 2,325.

(c) *Tonsils and Adenoids.*

Troubles in the nose and throat—generally spoken of as "Tonsils and Adenoids"—and much under discussion at the present time, are amongst the commonest conditions with which School Medical Officers have to deal.

So important and close relationship have they to disturbances of general health, and so remote from the nose and throat are the symptoms which they often give rise to, that the effects on health produced by these conditions are not always recognised even by medical men. It cannot be wondered at, therefore, that the general public fail in many instances to realise how important a matter "Tonsils and Adenoids" is to the health and well-being of all children.

Parents, when spoken to on the subject of "Tonsils and Adenoids," often admit quite frankly that their child may have tonsils, but adenoids, no. They talk as if the two conditions were two separate and unconnected diseases, whereas they are both manifestations of one condition, and nearly always occur together, viz., an overgrowth of normal lymphoid or adenoid tissues. *i.e.*, the tissue of which all lymph glands throughout the body is composed, and it must be remembered that this lymphoid tissue has a very wide distribution throughout the body.

At the back of the nose and throat are found not only the tonsils, but also patches of exactly similar tissue on the wall of the pharynx (*i.e.*, the cavity forming the upper part of the gullet) with other small patches at the sides of the throat near the opening into the ear. Small similar patches are to be found at the base of the tongue. Similar tissue is to be found in other parts of the body, *e.g.*, in patches throughout the intestine, and lastly, we have an enormous number of lymphatic glands to be found in practically every part of the body.

This lymphoid tissue shows the most extraordinary variations in its development in different individuals. Tonsils and Adenoids, therefore, must not be considered in the light of new growths or tumours; they are only the excessive development of a normal structure.

Another feature of this lymphoid tissue must also be remembered, because it has a very important bearing on the question of operation for Tonsils and Adenoids. It is most abundant in childhood, and, in consequence, children suffer more from Tonsils and Adenoids than adults, and, moreover, this lymphoid tissue has a marked tendency to diminish in quantity relatively to the size of the body during adolescence, hence the popular idea that children suffering from Tonsils and Adenoids will "grow out of it." The condition commonly called "status lymphaticus" is an undefined condition, one of the characteristic features of which is an abnormal increase of this lymphoid tissue throughout the body.

Next I would like to point out what the results of Tonsils and Adenoids are, and in doing so it must be remembered that the results come under the two headings (1) immediate, and (2) remote.

(1) *Immediate Results.*

These mainly are due to the mechanical obstruction of the air passages. Some may be due to the catarrhal state, which, according to some authorities, is a favouring cause of Tonsils and Adenoids, and to others is one of the effects of Tonsils and Adenoids. Whichever is the correct theory, children suffering from Tonsils and Adenoids undoubtedly are more susceptible to catarrhal conditions, *e.g.*, Bronchitis, Pneumonia, Colds and Influenza, and suffer more acutely from them.

Those of us who are accustomed to see large numbers of Tonsils and Adenoids cases in all stages of development, have no difficulty in picking out those cases in which mechanical obstruction of the air passages is having its effects. The "adenoid face" once recognised is unmistakable, with the open mouth and pinched-in nostrils, the heavy, snoring breathing, the nasal voice, the stooping shoulders, with the head well thrust forward, and the contracted so-called "funnel-shaped" chest, the lower end of the breast bone depressed, or, as is sometimes seen, a pigeon chest.

Whether catarrhal conditions are a cause or an effect of Adenoids, the symptoms are very definite, frequent colds, accompanied by more or less marked deafness, at first occurring only when the child catches a fresh "cold," but soon becoming permanent, "running ears," hoarseness and cough, especially on first going to bed or in the early morning.

Occasionally there is persistent nasal catarrh, and there may even be frequent bleedings from the nose, the constant swallowing of the discharge from the back of the nose, consequent on the catarrh, not infrequently leads to vomiting after meals, commonly attributed to "indigestion." It is obvious that a child whose breathing is obstructed will have its sleep disturbed by the mechanical difficulty in breathing, so that it suffers severely from lack of sufficient sleep, looks pale, and lacks the ordinary vitality of childhood, and soon becomes heavy and stupid looking.

(2) *Remote Results.*

But in addition to these conditions just considered, there is another and equally important consequence to be considered, viz., the risks of infectious diseases of all kinds, particularly those which affect the throat, Diphtheria, Scarlet Fever, and Measles. It is evident on examination that there are many nooks and crannies in the tonsils (called the "crypts") in which germs of all kinds find a ready breeding place. Similarly one has only to note the folds and irregularities in a mass of removed Adenoids to recognise the same fact. In this connection it may not be inappropriate to mention that one of the recognised lines of treatment for Diphtheria "carriers" is removal of the Tonsils. Infection of all kinds must be favoured by such conditions in the nose and throat.

In Sir George Newman's report for 1923, it is stated :—
 "It is generally held that the presence of enlarged tonsils in a child increases the risk of contracting infectious diseases, and that removal of the tonsils (and adenoids) diminishes this risk. In one school it was found that one in nine children with enlarged and untreated tonsils suffered from Scarlet Fever, as against one in twenty-eight of the others. In another the incidence of infectious diseases upon the school children generally was 28% while upon those who had been operated upon for enlarged tonsils and adenoids this incidence was only 4.8%. There were numerous examples where a child who had been operated upon was intimately exposed to infection subsequently without contracting the disease."

As a matter of fact, the tubercle bacillus—the germ of tuberculosis—has actually been found in tonsils after removal.

In Sir George Newman's report to the Board of Education for 1921, it is stated :—" There are good grounds for believing that the removal of diseased tonsils and adenoids on the advice of school doctors has resulted in a substantial decrease of glandular tuberculosis."

Naturally, when the condition is one in which enlarged tonsils is the preponderating element, the picture is somewhat different, and when both tonsils and adenoids are present, and to a marked degree there is an accentuation of all symptoms.

From infected tonsils serious trouble may occur in other parts of the body. Not only may the lymphatic glands in the neck become enlarged and sometimes acutely inflamed, leading to the formation of an abscess, but symptoms of a general blood poisoning may ensue, showing itself in various ways, and in varying degrees of severity, not the least dangerous of which is an affection of the kidneys.-

Probably not the least important effect of Tonsils and Adenoids is the effect on their mental condition, which is almost as characteristic as the " Adenoid face." Many cases show marked mental dullness, associated with loss of power of concentration. Therefore education as well as health is severely interfered with.

As I have already mentioned, the germ of tuberculosis has often been found in diseased tonsils after operation. Similarly, the causative germ of rheumatism has been found.

Decayed and septic teeth are not infrequently associated with enlarged tonsils, and in such a condition the tonsils become chronically enlarged, and it is not an uncommon occurrence to have on the top of the chronic enlargement an acute inflammation of the tonsil, which may, and sometimes does, lead to abscess formation. It can easily be understood from this how the constant swallowing of even small quantities of pus (matter) from inflamed tonsils will readily upset the digestive organs, and have a most deleterious effect on the general health.

Treatment.

The mere fact that a child has Tonsils and Adenoids is not necessarily an indication that an operation is necessary.

It must always be borne in mind that in the natural course of events, the normal tendency is for this lymphatic tissue in the nose and throat to diminish after puberty and during adolescence, even when these tissues have shown some signs of having been enlarged (inflamed), hence the belief that children "will grow out of it." It is true that many children do "grow out of it" with apparently no ill effects. But on the other hand there are many children who do not "grow out of it" until damage in the way of permanent deafness, permanent illhealth has been done, and, moreover, permanent damage which could have been prevented.

The invariable rule of the Health Department in this County is not to advise operation unless some danger signals of complications are manifesting themselves. It is true that waiting is not devoid of some risk, not the least of which is an affection of the ears; unfortunately it is also true that operation also involves *some* risk, and though it is true that the risk is a slight one, it is ever present in our minds before advising operation.

In an occasional case operation is followed by an inflammatory condition in the middle ear, but it is also to be borne in mind that no operation, even of modern surgery, is free from risk to life. That the risk is slight is admitted, but nevertheless it is ever present in our mind, and for this reason one of the first instructions a School Medical Officer receives on taking up his duties in this County is that because a child has Tonsils or Adenoids, or both, it does not necessarily require an operation, and unless grave danger to the health of the child is threatened, operation is not to be advised.

What constitutes grave harm from Tonsils and Adenoids? Recurring earache, and still more, the slightest degree of deafness, even if it only comes on when the child has a cold, is one of the strongest reasons for advising operation.

The chief harm from Tonsils and Adenoids is general illhealth; the child becomes pale and has a pasty complexion, partly no doubt owing to deficient aeration of the blood,

owing to obstructed breathing, but partly also for lack of refreshing sleep, for most of these children sleep restlessly, wake frequently, are dull and heavy, become nervous and peevish, because they are deprived of that long, refreshing sleep which is so essential to healthy childhood.

When children have repeated attacks of bronchitis, due to an extension of the catarrhal condition to the chest, operation is undoubtedly advisable; more especially is this the case where deformity of the chest, resulting from obstruction in the nose and throat is beginning to manifest itself.

I have already mentioned that the causative germ of rheumatism has been found in tonsils after removal.

That the terrible havoc of suffering and death caused by rheumatism, in its various manifestations, is not generally realised, must, I think, be accepted as a fact. In a pamphlet published by the Ministry of Health (Public Health and Medical Subjects No. 23 on "Incidence of Rheumatic Diseases," published by H.M. Stationery Office), it is pointed out that nearly one-sixth of the industrial invalidity of this country is due to "Rheumatism." Each year these diseases are costing approved Societies two-million pounds in sickness benefit, and the nation over three million weeks loss of work. The report states that half this loss is due to chronic joint disease. Nearly half the patients with acute Rheumatism showed involvement of the heart valves in addition. The report goes on to show that in *fifty out of every hundred cases the tonsils were unhealthy and diseased, and the seat of suppuration.*

In cases where enlargement of the glands at the angle of the jaw is present, immediate operation is advisable on account of the risk of infection of tuberculosis, because once glands have become enlarged from any cause, the risk of infection from tubercle is increased enormously.

The subject of operation for Tonsil and Adenoid cases has been brought prominently before the public by a recent case heard before a local bench of magistrates, and which gave rise to considerable newspaper correspondence,

The facts of the case are as follows :—

In October, 1924, a child was found at the Medical Inspection to be suffering from Tonsils and Adenoids, and operation was advised.

At the Medical Inspection in 1925, the same condition was found, and as nothing had been done, operation was again advised.

Two letters were sent advising operation, and the School Nurse visited the home and saw the parents. As nothing had been done up to September, 1926, the case was referred to the N.S.P.C.C.

In October, 1926, the child was taken to the family doctor, who stated that the child had enlarged Tonsils, but as she was suffering from a cold, operation was not then advisable, but that it should be done as soon as the cold was better.

Further letters were sent, and the Inspector N.S.P.C.C. again visited the home.

The School Medical Officer had an interview with the parents, and told them that if they would produce a medical certificate stating that the child had neither enlarged Tonsils nor Adenoids, or that no operation was necessary, the matter would end.

From first to last the child was seen by three members of the School Medical Staff and by the family doctor, all of whom advised the parents that operation was urgently necessary, as the child was undoubtedly suffering in health.

There are two very important questions raised by this case :—

1. The action of the N.S.P.C.C.
2. The liberty of the subject.

Was the action of the N.S.P.C.C. justified ?

Any of us who have had experience of the work done by the N.S.P.C.C. and their methods know that to harass a parent unduly is the last act they would be guilty of, but when the facts are laid before them, and testified to by no

less than four medical men, that a certain action, or rather want of action, is causing unnecessary suffering, and is likely to be, and is, in fact, detrimental to the health of a child, surely no unbiased person could accuse the N.S.P.C.C. of "overstepping the borders of its usefulness," and even to coerce a parent in such a case is no less than the duty they owe to the public from whom they receive support.

In fact, I would go so far as to say that in such a case the N.S.P.C.C. would be betraying the trust, and neglecting to carry out the purposes of their being, which is :—"to protect children from neglect in all its forms, and to prevent cruelty from whatever cause arising," if they had not taken the action they did.

Section 12 (1) of the Children Act, 1908, reads as follows—

"If any person over the age of sixteen years, who has the custody, charge, or care of any child or young person, wilfully assaults, illtreats, neglects, abandons, or exposes such child or young person, or causes or procures such child or young person to be assaulted, illtreated, neglected, abandoned, or exposed, in a manner likely to cause such child or young person unnecessary suffering or injury to his health (including injury to or loss of sight, or hearing, or limb, or organ of the body, and any mental derangement), that person shall be guilty of a misdemeanor, and shall be liable :—

- (a) on conviction on indictment to a fine not exceeding one hundred pounds, or alternatively, or in default of payment of such fine, or in addition thereto, to imprisonment with or without hard labour, for any term not exceeding two years ; and
- (b) on summary conviction, to a fine not exceeding twenty-five pounds, or alternatively, or in default of payment of such fine, or in addition thereto, to imprisonment, with or without hard labour, for any term not exceeding six months ;

and for the purposes of this section a parent or other person legally liable to maintain a child or young person *shall be deemed to have neglected him in a manner likely to cause injury to his health if he fails to provide adequate food, clothing, medical aid, or lodging for the child or young person, or if, being unable otherwise to provide such food, clothing, medical aid, or lodging, he fails to take steps to procure the same to be provided under the Acts relating to the relief of the poor.*"

Knowing what I do of the work of the N.S.P.C.C., I requested them to take this case up, not so much with the object of proceeding against the parents, but with the sole object of securing treatment for the child, and avoiding the legal procedure which followed, because past experience of similar cases has shown that many parents who are not disposed to follow medical advice can often be persuaded to do so by the Inspectors of the N.S.P.C.C.

Every member of the School Medical Service is fully alive to his responsibilities in recommending an operation for Tonsils and Adenoids, and that this responsibility is not undertaken lightly is evidenced by the fact that during the year 1927, whilst 1,566 school children were noted to have abnormal conditions in their nose and throat, only 495, or 2% of the number inspected (24,000) were recommended for operative treatment for Tonsils and Adenoids.

As soon as definite symptoms of illhealth begin to show, I consider that I, as School Medical Officer, would be seriously neglecting my duty if I did not urge operation in every possible way when Tonsils and Adenoids are giving rise to conditions which endanger the health and even the life of a child.

I make this statement deliberately, having ever before my mind the fact that there is *some* danger after operation of serious and possibly fatal complications following.

What does this danger amount to ?

Local statistics, covering several years, are available, showing that some 14,000 cases of Tonsils and Adenoids have been operated on by the Ear, Nose and Throat Specialist, (Dr. E. Craig Dunlop), in Carlisle, and that there have been four deaths. Two of these occurred under the anæsthetic, and as the patients suffered—it is supposed—from “status lymphaticus,” the deaths would have taken place whatever operation was to be performed. The third died from Broncho-pneumonia, after being allowed—in spite of warning of necessary care—to play out in the wet immediately after his return home. The fourth occurred from an abscess in the brain. In this case, in spite of advice having been given to send for the family doctor, the child remained with definite and dangerous symptoms for a week before medical advice was sought, and remained at home another week before being sent to the Infirmary—in a dying condition—for operation, which, if it had been undertaken sooner, would almost certainly have saved the child's life.

In this series of cases there have only been two similar cases of mastoid abscess, both of which were promptly dealt with by operation, and both completely recovered without leaving any disability.

Does such a record justify any one in saying that the operation for Tonsils and Adenoids is a dangerous one?

Does such a small risk justify anyone in saying that when symptoms of ill health are being produced by Tonsils and Adenoids every available means should not be used to "harass and coerce" the parents into having the operation done?

Would any surgeon ever hesitate to operate on, for instance, a case of appendicitis because the giving of an anæsthetic was not free from some danger, and the operation itself is one which involves some risk to life?

What results may be expected from operation?

In the Report of Sir George Newman for 1921, appears the following :—

"The advantage to be derived from appropriate operation in suitable cases is beyond question. The health of the child improves in every way, physically and mentally. Dr. Barwise, the County Medical Officer of Health of Derbyshire :—

'made enquiries of some 400 parents as to their own opinion on the health of their children after operation. The replies that came in show that 75 per cent. of the children were hearing better, 91 per cent. were breathing better, and that 70 per cent. suffered less from repeated colds. As children suffering from enlarged Tonsils and Adenoids are frequently deaf, and on account of obstruction to breathing are not able to run about and get their blood thoroughly aerated, they are not in a condition to benefit to the full by education. I therefore issued a circular to a number of teachers who take an interest in our work, and they have reported that 79 *per cent.* of the children have improved in general health, and in 75 *per cent.* they have improved in intelligence, and have become capable of a higher standard of educational work.'

In a paper "An Investigation of the Results of the Operation for Enlarged Tonsils and Adenoids," Mr. J. Keen, M.B., F.R.C.S., Aural Surgeon to the Leicester Education Committee and Aurist to the Ministry of Pensions, says:—

"Complete reports were furnished by the teachers for 666 children. Detailed analysis of these reports show an improvement in each particular, *i.e.*,—

- (1) A reduction of 32 per cent. in the number of children whose attendances were irregular.
- (2) A reduction of 34 per cent. in the number of those who were retarded in school work.
- (3) A reduction of 45 per cent. of those appearing deaf to teachers.
- (4) A reduction of 23 per cent. in the number of those classified as dull

"Whether the average increases in weight and height are considered, or whether malnutrition is used as an index, the results point consistently towards the conclusion that this operation is followed by striking and clear benefits to the general health and physique—quite apart from the relief which the treatment affords to more local symptoms. Further than this, the investigation tends to show that the role which is played by the removal of Tonsils and Adenoids (such as is carried out in the usual way by the School Medical Service) is not, as has been advanced by some extremists, a purposeless, unjustifiable, procedure; but on the contrary, the results show that operation removes a handicap to the development of the child. And it helps in a definite way to advance the aim of preventive medicine, which is not only to abolish the more serious diseases and to postpone death, but also to enable each individual to be free from even minor disabilities, to be so strong and vigorous as to reach the maximum efficiency during life, and to obtain (as it is expressed, somewhat colloquially) the most out of life."

As a matter of fact, so successful have many of these operations been that several parents, after being "harassed and coerced," have written to thank me for doing so, so marked have been the benefits resulting from the operation. This is, in fact, a common experience, both of the School Medical Department and of the Inspectors of the N.S.P.C.C. in other groups of defects in which the parents have been "coerced."

Now, with regard to the "liberty of the subject." Is any parent justified in withholding his consent to an operation, which involves such small risk, with the knowledge that by doing so he is in all probability condemning his child to permanent ill-health, deafness or discharge from the ears, with the risks of meningitis and brain abscess, all of which are well known to follow neglected Tonsils and Adenoids.

Would anyone talk about interfering with the liberty of the subject because a man was fined or imprisoned for cruelty to a horse or other animal? Surely if it is justifiable to interfere with the liberty of the subject to prevent suffering to an animal, it is more justifiable to do so—if it is doing so—to prevent illhealth and all the train of serious illness which follow in the wake of Tonsils and Adenoids.

I have quoted results in other areas. I am glad to be able to refer to a letter I have recently received from a teacher in this County—subsequent to the newspaper correspondence—giving very emphatic approval of the results of the removal of Tonsils and Adenoids, as evidenced by improvement in health, attendance, and work, in a long list of cases operated on from the school concerned. I have no doubt that the opinion of nearly all teachers in the County would be strongly in agreement.

(D) TUBERCULOSIS.

(a) *Pulmonary*.—65 definite cases were found, 49 requiring treatment (10 Routines and 39 Specials), and 16 to be kept under observation (5 Routines and 11 Specials); whilst 110 suspected cases (25 Routines and 85 Specials) were noted. 69 were referred for treatment, and 41 to be kept under observation.

A large percentage, in fact practically all, of these cases, both definite and suspected, were "contacts" of cases of tuberculosis already known.

During the year 496 children were examined specially with a view to discover whether they had Tuberculosis or not, because they were "contacts" of known cases.

Ten, or 2%, were found to be suffering from Pulmonary Tuberculosis, and 50, or 10%, were suspicious, and will be examined again from time to time,

(b) *Non-Pulmonary*.—74 cases of tuberculosis affecting glands, bones and joints, spine and other parts of the body were also noted. This is an increase of 10 on the previous year, but is not an indication that this form of tuberculosis is increasing. More attention has been given to finding the cases, because further and better facilities are now provided for treatment.

(E) SKIN DISEASES.

Of these there were 950 referred for treatment ; whilst 62 were to be kept under observation.

The cases referred for treatment were :—

Ringworm of the Head	..	..	73
" Body	..	..	49
Scabies	..	..	82
Impetigo	..	..	524
Small Septic Sores, &c.	..	..	227

These conditions were slightly more prevalent than in previous years.

(F) EXTERNAL EYE DISEASES.

Of these there were 558 cases, 370 requiring treatment, and 188 to be kept under observation.

(G) VISION.

1,680 cases of defective vision were noted, 640 in the Routines, 279 were referred for treatment, whilst 361 are to be kept under observation. Among the Specials there were 1,040, 367 requiring treatment, and 673 to be kept under observation.

The very useful notes on Defective Vision kindly given me by Dr. Ross, and printed in my last Report, have been printed as a leaflet, and a copy is sent to the parents of every child discovered with defective eyesight.

(H) EAR DISEASE AND HEARING.

Of ear diseases there were 226 referred for treatment ; whilst 61 were to be kept under observation.

Of defective hearing 58 cases were referred for treatment, and 42 for observation.

(i) DENTAL DEFECTS.

706, nearly double that in the previous year, were noted at the Medical Inspection as requiring treatment.

It must, of course, be understood that this number represents only the very worst cases, with abscesses and serious septic conditions of the mouth, ordinary cases of dental caries are not included in the figures relating to medical inspection.

VI.—INFECTIOUS DISEASES.

The procedure for dealing with infectious diseases in schools, is that agreed upon in 1909. It is found satisfactory in working, and has not been varied.

With the exception of Influenza and Measles, no infectious disease was unduly prevalent during the year.

192 schools were closed for the following reasons :—

Influenza	..	131	Scarlet Fever	..	..	6
Measles	..	43	Whooping Cough	..	..	3
Chickenpox	..	5	Diphtheria	..	..	1
Mumps	..	3				

VII.—FOLLOWING-UP.

I am satisfied that the methods now adopted at least give the opportunity for every child requiring treatment to obtain it.

The vast majority of parents gladly avail themselves of the opportunity, many require a good deal of explanation and persuasion, and a small minority will only have treatment carried out when practically compelled to do so. The National Society for the Prevention of Cruelty to Children has again this year been most helpful in persuading obstructive parents of the necessity for treatment in certain cases, but they are only asked to intervene when danger to health is manifesting itself.

The extent and scope of this work is shown in the following table, which shows the conditions for which the homes were visited as well as the number of visits paid :—

<i>Conditions.</i>	<i>No. of Cases.</i>	<i>No. of Visits paid.</i>
Malnutrition	15	46
Uncleanliness	413	986
Skin Diseases	78	163
Eye Conditions	285	472
Ear	160	372
Nose and Throat	176	324
Heart and Circulation	134	368
Lungs (Non-tubercular)	87	228
Lungs (Tubercular)	3	11
Pretubercular	40	116
Other Tuberculous Conditions	5	17
Deformities.. ..	3	8
Glands	35	75
General Cases	137	358
	1571	3544

In addition to these, 59 visits were paid by District Nurses to 30 cases requiring dental treatment.

VIII.—MEDICAL TREATMENT.

The arrangements for the various forms of treatment have been dealt with fully in previous reports, and are summarised in that for the year 1923, p.p. 16-18.

Some indication of the amount and scope of the work at the School Clinics will be got from the following tables :—

<i>Clinic.</i>	<i>New Cases.</i>	<i>No. of Attendances all Cases.</i>
Cleator Moor	504	2846
Cockermouth	705	2700
Egremont	277	989
Maryport	669	3727
Millom	457	4058
Penrith	306	1376
Wigton	289	1428
	3207	17124

<i>Conditions for which Child attended.</i>	<i>New Cases.</i>	<i>No. of Attendances. All Cases.</i>
Malnutrition	26	164
Uncleanliness	77	788
Skin Diseases	704	3803
Ear Diseases	120	943
Eye Diseases	257	1602
Nose and Throat	124	270
Enlarged Glands (Non- tubercular)	40	221
Heart and Circulation	105	677
Lungs (Non-tubercular)	154	950
Lungs (Tubercular or Suspected)	79	720
Tuberculosis (Non-pulmonary)	25	232
Nervous System	37	170
Deformities	29	81
Other Defects & Diseases	1327	6140
Goitre	28	218
Defective Speech	3	11
Dental	72	134
	3207	17124

There were 298 more new cases, and 1,767 more attendances at the Clinics than in the previous year.

The following is a short summary of all the treatment carried out during the year :—

(a) *Minor Ailments.*

Referred for treatment.	Treated.
2325	2293

(b) *Tonsils and Adenoids.*

Referred for treatment.	Treated.
555	*313

* Included in this figure are 67 cases referred from 1926.

(c) *Tuberculosis, Pulmonary.*

Referred for treatment.	Treated.
Definite 49	25
Suspected 69	50

Non-Pulmonary.

53	33
----	----

On the 1st January, 1927, 18 children were under treatment in the Sanatorium for Tuberculosis, as under :—

			Boys.		Girls.
Pulmonary	..	..	9	..	7
Non-Pulmonary	..	..	—	..	2

Twenty-four children (12 boys and 12 girls) were admitted during the year. Thirty-three (17 boys and 16 girls) were discharged during the year, and there were at the end of the year 9 (4 boys and 5 girls) still in the Sanatorium. On discharge 16 were quiescent, 14 were "very much improved." In 2 there was "no material improvement," and 1 died in the Sanatorium.

Referred for treatment.	Treated.
(d) <i>Skin Diseases.</i>	
950	763
(e) <i>External Eye Diseases.</i>	
370	331
(f) <i>Vision and Squint.</i>	
703	*702
(g) <i>Ear Disease and Hearing.</i>	
122	66

* Included in this figure are 126 from 1926.

Included in groups (b) and (g), 66 cases were referred to Dr. Syme for his opinion, 33 were operated upon by him, 25 operations were performed in local hospitals, and 8 cases were operated on privately.

(h) *Dental Defects.*

The report of the Dental Officer will be found in Appendix C.

The Dental Statistics are given in Table IV., Group IV.

The services of the School Dental Officer are in such demand that he finds it only possible to comply with a fraction of the requests for his attendance. The Dental Van continues to be of very great service.

(i) Crippling Defects and Orthopædics.

The present condition of the cripple scheme is indicated in the following tabular statements :—

(J) CRIPPLING DEFECTS

TABLE A.

New Cases during 1927..	..	..	..	..	167
No. on Register, 1/1/27	..	..	..	..	442
No. Removed from Register (owing to Cured, Left County, Dead, or Cancelled)	..	..	..	..	204
No. on After-care Register	..	..	..	..	404
Attendances at After-care Clinics	..	..	..	..	905
Seen by Consulting Surgeon (not included in above) ..					102
Appliances Provided and Renewed	..	..	..	..	116
Plasters provided at After-care Clinics	..	..	..	..	20
Surgical Clogs Supplied					
„ Boots „ }	..	..	..	..	52

In addition to the above, the Orthopædic After-care Sister holds three Intermediate Clinics (at Workington, Cleator Moor, and Maryport), and also visits the children at their homes.

The attendances at these Clinics for 1927 number ..	600
No. of Visits paid to Homes for After-care work ..	529
No. of Plasters put up in the Homes	64
Cases in Hospital, 1/1/27, and Admissions during 1927 :—	

Windermere	..	..	..	..	52
Oswestry	..	..	..	..	20
Stamington	..	..	..	..	—
Cumberland Infirmary	..	..	..	..	2
Silloth Convalescent Home	..	..	..	..	—

Discharges from Hospital :—

Windermere	..	..	..	..	30
Oswestry	..	..	..	..	13
Cumberland Infirmary	..	..	..	..	2
Silloth Convalescent Home	..	..	..	..	—

Awaiting Admissions to Hospital, 31/12/27..	..	19
X-rayed during 1927	..	42
Awaiting X-ray	..	5

TABLE B.

Defects under treatment or observation at the ortho-pædic clinics at the end of 1927 :—

Poliomyelitis	88
Surgical Tuberculosis	56
Rickets	52
Congenital Defects	27
Birth Palsies	14
Injuries	15
Osteomyelitis	12
Torticollis	6
Spinal Curvature (other than T.B.)	31
Spastic Paralysis	15
Flat Foot	19
Pseudo-coxalgia	15
Other Conditions	34
Talipes	13
Other Forms of Paralysis	7

REPORT BY MISS NELSON, ORTHOPÆDIC AFTER-CARE
WORKER, FOR 1927.

“The chief difficulty which came to the front in 1927 was the number of children, and especially of girls awaiting admission to hospital, and the difficulty of getting beds for them. This was due to the fact that many more cases of surgical tuberculosis were referred to the cripple scheme for treatment. Such cases require urgent treatment, and usually have to remain in hospital for a very long period, up to in some cases 2 or 3 years. The difficulty is still, at the end of 1927, a considerable one, but the situation has been relieved during the year by a new policy of nursing some of these tubercular bone and joint cases on frames in their own homes. The procedure is always difficult, and may be sometimes impracticable for three reasons :—

- (1) Owing to the scattered area of the County, such cases can only be supervised once a week, or sometimes even once a fortnight, if the pressure of the cripple work is too great in other directions at the time, and especially if the cases are in isolated areas.
- (2) Many parents do not appear to have the necessary common sense which is essential if their co-operation is to be reliable.

- (3) In many homes the extra feeding essential to a tubercular case is impracticable, owing to poverty, and in many homes it is impracticable to get anything approaching open-air treatment.

The After-care Sister visits the homes, in the first instance, to see if the mothers have the necessary intelligence and willingness to look after the child adequately (under supervision). If these and other conditions are satisfactory, the children are put on frames, and are seen each week by the After-care Sister, and seen once in four months by the Visiting Staff from Windermere.

During 1927, 8 cases have been nursed at home on frames or similar appliances, 2 spinal cases and 3 hips were on frames, and 3 knee cases on Thomas' splints. Of the 5 frame cases, the 2 spinal ones are still on their frames at the end of the year. One of these is greatly improved. Of the 3 hip cases 2 are off their frames and are doing well, and the third had to be sent into hospital for further treatment. Of the 3 knee cases on Thomas' extension splints, one is off the extension and is nearly cured, one is still wearing the splint, and the third will have to be sent into Hospital owing to the failure of the parents to co-operate in the treatment. This new system of nursing cases at home on frames has certain great advantages. The first advantage is that there is an enormous saving over the cost of treatment in hospital. The cost of treatment of cases of surgical tuberculosis in hospital will often reach £250, or even more, for spinal cases, and the cost of the others may be anything up to £100 or over. The cost of nursing at home is little more than the provision of the frame, and wool bandages and so on, and the provision of extra nourishment, which is usually allowed. The second great advantage is that the children can start treatment at once, without waiting for a hospital vacancy, which in cases of surgical tuberculosis is often disastrous. The third great advantage is that with treating more of these cases of surgical tuberculosis in their own homes, it has been possible to send more cases of crippling of a non-tubercular nature to hospital, because, as a general rule, the turnover of non-tubercular cases is very much quicker than that of the tubercular, and each tubercular case sent means the holding up of a bed for months or even years.

During 1927, an effort has been made to place some of the County cripples in employment, but this has proved extremely difficult, owing to the economic conditions under which many able-bodied people are unable to find work. Five cripples have been placed in employment (2 boys and 3 girls), the 3 girls were sent to domestic service, 1 boy is employed in a factory, the other boy is employed as a lamp cabin boy at a pit."

There is no doubt that something more will have to be done to assist our cripples to obtain employment. This is in many respects the weakest part of the Cripple Scheme.

It is comparatively little use sending a seriously crippled child to hospital, and discharging the boy or girl from the cripple clinic, cured admittedly as far as surgical treatment can cure the case, but still grossly handicapped—perhaps unable to get about without crutches—unless something can be done to help the child to earn its own living. A cripple so placed may have been physically dealt with, but has not been dealt with from the wage-earning point of view.

The Shropshire Orthopædic Hospital and Leasowe Hospital, Liverpool, have recently started schemes for the training of cripples of both sexes, ranging from the ages of 14 to 25 in such trades as Tailoring, Laundry, Upholstery and Mattress-making, shopkeeping, Surgical Boot-making and Repairing, Painting and Decorating, Metal and Surgical Appliance Making, Fancy Leather and Splint Making, Electrical Engineering, Carpentry and Joinery, Commercial Training. It would appear that the cost of such maintenance and training would be on the average about £78 per annum, half of which is recoverable from the Board of Education; making the net cost to the County £39 per annum. The average length of stay would appear to be between 2 and 3 years, so that it will cost a little over £100 to train an adolescent cripple in some trade. Even such a course of training does not *necessarily* completely solve the problem. A boy, *e.g.*, may be trained as a bootmaker, and may have become a competent bootmaker, but, unless as the result of local interest, opportunities are brought to him to practice the trade he has learned, his economic problem has not been solved. Manifestly, therefore, local interest in such cases is essential.

During 1927, two notable steps were taken to assist in the difficult problem of transport of cripples.

- 1) The Whitehaven division of the St. John's Ambulance Brigade most kindly consented to undertake journeys from Cumberland to the Ethel Hedley Hospital at Windermere, with their ambulance at an exceedingly reasonable charge, to help us with the transport of stretcher cases, and of cripples in general. We are most grateful to Superintendent Barkas and his Committee for their help, which is invaluable.
- (2) During 1927, an Appeal was issued by the County Medical Officer of Health for subscriptions to put the Adult Cripple Fund on a satisfactory basis, and the appeal also asked owners of private cars to come forward and help in the transport of cripples as and when required. Some 28 owners of private cars have very kindly agreed to help.

The appeal for funds to carry on the After-care work among the cripples after leaving school has resulted as follows :—

Donations amounting in all to £246 0s. 11d. were received up to the end of the year, of which £57 4s. 0d. will continue as annual subscriptions. The appeal was issued to all Head Teachers in the first instance, and thereafter generally to those likely to be interested, some 1,500 appeals being sent out in all. 38 teachers have responded of the 274 to whom the appeal was sent, and 99 responses were received to the other 1,226 appeals. The fund, taking into account the credit balance brought forward from 1926 and certain other considerable sources of income during 1927, amounted, including the result of the appeal, to approximately £300 at the end of the year. It is gratifying to note that a number of new subscribers have contributed during the early days of 1928. The result of the appeal have been very gratifying in this way, that not only were there a large number both of teachers and others who contributed, but quite a number of areas showed special interest in the shape of collections in the area, or from the staff of children at the schools, or by the promises of holding concerts, dances, etc., to assist the funds (some of which promises have already been fulfilled), or through the medium of the Women's Institutes in different parts. Many of these promises indicated that the interest in the scheme would probably be maintained by way of annual efforts. All this is very gratifying, and it may, I think, fairly be said that a wider interest is now taken in our cripple scheme than ever before.

I must also acknowledge the continued interest taken in our cripple work by Miss Josephine and Miss Norah Chance, of Crofton Hall; and by Miss Mounsey Heysham, of Castle-town. Mr. Wilson, Photographer, Whitehaven, has also placed us in his debt, by kindly consenting to take any photographs of special cases which we may desire either for reference or as a guide in treatment.

The year 1927 has been a particularly encouraging year, as there have been so many good results.

Out of the 204 cases discharged, 52 are either *completely* cured, or have such a small deformity left that it is hardly noticeable, and if work was procurable, would be able, more or less, to compete in the open market. Some are already at work and doing well.

IX.—OPEN-AIR EDUCATION.

Beyond the fact that a few classes are held in the playgrounds in fine weather, there is no special accommodation for Open-air Education.

X.—PHYSICAL TRAINING.

The reports of Miss Fraser and Mr. Gray, the Chief Organisers, will be found in Appendices D. and E.

XI.—PROVISION OF MEALS.

It was not considered necessary by the Education Authority to provide any meals for school children during the year.

XII.—CO-OPERATION OF PARENTS.

Very few objections are now raised to the Medical Inspection of School Children; indeed the ever increasing number of parents who attend the inspections goes to show that the work is gradually becoming more popular, and that the obvious advantages to be obtained from it are being gradually realised.

There is, however, a strange reluctance on the part of some parents to obtain treatment for their children.

It may be because in some areas of the County adequate treatment is difficult to obtain, and that the difficulties to be overcome do not appear to the parent to warrant the expenditure of time and energy in obtaining treatment for a minor ailment, which in the parent's eyes is doing the child no harm.

If, however, Medical Inspection is to take the place it ought to take, and to bear fruit commensurate with the amount of money spent on it, a broad view must be taken and parents must be taught that the main object of Medical Inspection is the preservation of health, rather than the treatment and cure of disease.

Minor ailments—and no ailment is too trivial to demand immediate treatment—must be considered, not only as they affect the child in the present, but also as they may affect the child's health in the future. It is this aspect of treatment that is not sufficiently recognised, but the ever increasing attendance at the existing School Clinics is an indication of the fact that parents would be willing and, indeed, anxious to have their children treated if adequate facilities were provided within a reasonable distance.

XIII.—CO-OPERATION OF TEACHERS.

All possible help, not only at the Medical Inspection, but also in persuading parents to have treatment for their children, is given, and freely given, by practically all the teachers. There are, however, one or two who are not only indifferent, but markedly hostile, and do not hesitate to put every obstacle in the way.

The help given by teachers is much appreciated by the whole of the Medical Staff, and I gladly take this opportunity of acknowledging our indebtedness to them.

XIV.—CO-OPERATION OF SCHOOL ATTENDANCE OFFICERS.

Close co-operation exists between the Medical and Attendance Departments, the one being mutually helpful to the other. Most of the Attendance Officers attend at the Medical Inspections, and often bring up habitual absentees for examination; similar cases are taken to the School Clinics by the Attendance Officers.

XV.—CO-OPERATION OF VOLUNTARY BODIES.

In addition to those mentioned in connection with the Cripple scheme, much valuable assistance is given in following up, and in securing treatment by the Inspectors N.S.P.C.C., whose help in this direction is invaluable,

One very important branch of work which could well be organised and carried out by voluntary bodies is the arranging for and procuring in every Rural school a change of stockings and a supply of slippers, in order that children coming from a distance in wet weather would not be under the necessity of sitting in their wet stockings and boots during the whole school day.

The Executive Committee of the Women's Institutes has been asked to take this matter into consideration, with a view to instituting and organising a scheme throughout the County.

I have recently received intimation from the Hon. Secretary of the Eskdale and Boot Hospital Committee that the Committee is now in touch with various Hospitals at which specialist advice and treatment (especially of eye, ear, nose and throat, and Orthopædic cases) may be obtained for the children within the Hospital Committee's area.

For the offer of such help we are exceedingly grateful, and hope that similar Hospital Committees will be formed in other parts of the County.

XVI.—BLIND, DEAF, DEFECTIVE AND EPILEPTIC CHILDREN.

During the year 21 deaf and dumb children, 6 blind children, and 1 epileptic were in institutions outside the County at the charge, either in whole or part, of the Education Authority.

XVII.—SECONDARY SCHOOLS.

Medical Inspection of the Secondary Schools in the County has been carried on as in previous years, but nothing calling for comment has occurred.

610 children were examined, and of this number 299, equivalent to 49%, showed no defect.

The usual Tables relating to Secondary Schools follow. These do not, however, include the Whitehaven Secondary School figures, which will be found in Dr. Muriel's Report (see Appendix F.).

TABLE I.

A general statement of the numbers examined, of the defects found, and of treatment obtained :—

		<i>Referred from 1926.</i>		1927. <i>New Cases.</i>
Number of children examined	..	349	..	610
No. of re-examinations		64	..	19
Children with no defects	..	—	..	299
Number of children with defects				
referred for treatment	..	221	..	209
Left or absent at the re-visit	..	9	..	3
Children with all defects remedied		157	..	10
Children with some defects				
remedied or treated		22	..	2
Promised to obtain treatment	..	1	..	182
Entirely untreated		38	..	—
Refused		1	..	—
Total number of defects referred for treatment		218	..	236
Total number of defects treated or partially treated		183	..	13

TABLE II.

	Referred for Treatment		Referred for Observation.		Treated		Partly Treated.		Promised to obtain Treatment.		Refused.		Untreated.		Left or absent at re-visit.	
	From Rout 1926	From Rout 1927	From Rout 1926	From Rout 1927	From Rout 1926	From Rout 1927	From Rout 1926	From Rout 1927	From Rout 1926	From Rout 1927	From Rout 1926	From Rout 1927	From Rout 1926	From Rout 1927	From Rout 1926	From Rout 1927
Defective Teeth ..	107	117 ..	1	6 ..	77	— ..	7	— ..	25	87 ..	—	— ..	27	— ..	14	—
Very Defective Teeth ..	6	2 ..	—	— ..	2	— ..	—	— ..	5	2 ..	—	— ..	5	— ..	5	—
Uncleanliness ..	1	— ..	1	1 ..	1	— ..	—	— ..	—	— ..	—	— ..	—	— ..	—	—
Malnutrition ..	2	— ..	1	1 ..	2	— ..	—	— ..	—	— ..	—	— ..	—	— ..	—	—
Pulmonary Tuberculosis ..	1	— ..	—	— ..	—	— ..	—	— ..	—	— ..	1	— ..	—	— ..	—	—
Pre-tubercular ..	—	3 ..	—	— ..	—	3 ..	—	— ..	—	— ..	—	— ..	—	— ..	—	—
Bronchitis and Weak Chest ..	3	6 ..	20	32 ..	3	2 ..	—	— ..	—	3 ..	—	— ..	—	— ..	3	—
Organic Heart Disease ..	3	— ..	8	3 ..	3	— ..	—	— ..	—	1 ..	—	— ..	—	— ..	—	—
Functional Heart Disease ..	2	4 ..	16	30 ..	2	— ..	—	— ..	—	2 ..	—	— ..	—	— ..	1	—
Anæmia ..	1	8 ..	3	— ..	1	3 ..	—	— ..	—	4 ..	—	— ..	—	— ..	—	—
Defective Vision ..	49	46 ..	34	37 ..	42	5 ..	3	— ..	6	34 ..	—	— ..	6	— ..	14	—
External Eye Disease ..	3	1 ..	—	1 ..	3	— ..	—	— ..	—	1 ..	—	— ..	—	— ..	1	—
Otorrhœa ..	1	1 ..	1	— ..	1	— ..	—	— ..	—	1 ..	—	— ..	—	— ..	—	—
Defective Hearing ..	—	3 ..	3	2 ..	—	— ..	—	— ..	—	3 ..	—	— ..	—	— ..	—	—
Tonsils ..	3	6 ..	10	13 ..	3	— ..	1	— ..	—	5 ..	—	— ..	1	— ..	2	—
Adenoids ..	1	3 ..	1	3 ..	1	1 ..	—	— ..	—	2 ..	—	— ..	—	— ..	—	—
Tonsils and Adenoids ..	3	4 ..	1	— ..	2	— ..	1	— ..	—	2 ..	—	— ..	1	— ..	1	—
Nasal Obstruction ..	2	1 ..	4	1 ..	1	— ..	—	— ..	—	1 ..	—	— ..	1	— ..	1	—
Non-Pulmonary Tuberculosis ..	—	— ..	—	— ..	—	— ..	—	— ..	—	— ..	—	— ..	—	— ..	—	—
Spinal and Other Deformities ..	7	8 ..	2	6 ..	5	3 ..	—	— ..	2	2 ..	—	— ..	—	— ..	2	—
Nervous Diseases ..	—	1 ..	1	— ..	—	1 ..	—	— ..	—	— ..	—	— ..	—	— ..	—	—
Impetigo ..	—	— ..	—	— ..	—	— ..	—	— ..	—	— ..	—	— ..	—	— ..	—	—
Scabies ..	—	2 ..	—	— ..	—	— ..	—	— ..	—	1 ..	—	— ..	—	— ..	—	—
Other Defects ..	21	21 ..	30	21 ..	19	4 ..	1	— ..	3	15 ..	—	— ..	—	— ..	4	—

SPECIAL ENQUIRIES.

During the year the Attendance Officers reported that there were 91 children of school age who were not attending school. 43 of these had never attended school at all. Seven entered school during the year, 2 died, and 1 has left the County. Thirteen have not yet been examined.

Of the 20 so far examined, 13 were found to be mentally deficient, and have been notified to the Voluntary Mental Welfare Association. Two had Heart Disease, 1 was Deaf and Dumb, 3 were Cripples, and 1 was an Abdominal Case probably requiring surgical care.

The record in Appendix B. of the experimental work which is being done in this County in the treatment of conditions which we believe to be deficiency diseases, deserve very careful reading.

For the past two years Appendices on the treatment of various conditions by means of Iodine have been included in this report. It will be noted that this year a beginning has been made with the extension of the experiments to treatment by another mineral—Calcium.

I do not think that the dependence of the human body on minerals for the promotion of health, growth, and body metabolism in general, and for the resistance to disease is generally realised.

There are some 10 minerals which the body requires in greater or less amount.

The chief of these are (1) Iron for the blood, (2) Calcium for the bones and teeth and other purposes, (3) Phosphorus for the bones and nerves, (4) Sodium and Chlorine in common salt, and (5) Iodine. Of these (4) and (5) are required by all the tissues, and Iodine is essential for the assimilation of other minerals.

There is a constant output of minerals from the human body, and if health is to be maintained, there must be a corresponding intake.

At certain times the need for intake is greater than at others. Two common examples from the animal world may suffice to explain what is meant. It is stated that a cow in milk with a high milk yield will excrete in its milk out-put yearly up to $1\frac{1}{2}$ tons of solids, which are mostly mineral salts. Another common example is that of the hen of a high-laying strain. Such a hen will lay up to 200 eggs per annum, and it is obvious common sense that to provide the shells for these eggs she must have a considerable intake of lime.

With regard to human beings, it is well-known that lack of iron results in bloodlessness. It is now known that the periods of human life at which the mineral need is greatest are during childhood, and especially *early* childhood, at puberty, and during pregnancy and the nursing period.

It stands to reason from what has been said with regard to the mineral loss of a cow that the mineral intake of the nursing mother requires close attention. As a matter of fact, it is well known that unless this mineral intake is attended to, the teeth of the pregnant and nursing mother will decay much more quickly than at other periods of her life.

Animals deprived of their mineral intake develop an intense craving for minerals. They will undertake pilgrimages of hundreds of miles to "salt licks." They will, if kept in captivity, while so deprived, eat the excrement of other animals because that contains a high proportion of minerals.

In certain well-known mineral deficiency areas of the world, for example, parts of South Africa, cattle will eat the skeletons of other animals to replenish their store of phosphorus. In mineral deficiency areas the physical and mental development of the people is very poor. Disease is rife, and in some areas, for example in Africa, the infant mortality reaches 500 per 1,000 births.

Animals in such areas will lose their wool or hair, and will abort their young or produce them still-born. Such are merely a few instances which could be multiplied many times to explain the mineral craving of the body.

The amount required of different minerals, of course, varies materially. It has been found, for example, among young pigs, that an intake of from 2 to 4 lbs. of Calcium and Phosphorus is required for each 100 lbs. increase in weight.

After some years of investigation in this County into the results on the Iodine deficiency, a beginning has now been made with an enquiry into a second mineral deficiency believed to be common in this area, viz., that of Calcium.

In the Appendix certain proposed lines of investigation have been outlined. It must be realised that the development of experimental work of this kind is necessarily slow and laborious in a County area, and progress will only be made step by step.

I am satisfied that the results which have been obtained fully justify the time and care which Members of my Staff are devoting to this question.

Many of the references above to mineral needs of the body have been taken from the publications of the Rowett Research Institute, Aberdeen.

I am glad to be able to say that we have done something during the year to co-operate with the Institution in its work in a small way, and I hope that as time goes on this co-operation will become increasingly important.

MISCELLANEOUS.

(a) Exclusion of children from school on medical grounds :

63 children were excluded by the School Medical Officer for periods of one month or over, and 15 were excluded permanently.

(b) Examinations of Teachers (on appointment), Pupil Teachers, and Bursars :—

<i>New Cases.</i>					1927.
No. Examined	..	..	..	..	65
No. without Defects	..	..	..	..	45
No. with Defects	..	..	..	..	20
Defective Teeth	..	..	..	..	3
„ Eyes	..	..	..	..	5
Other Defects	..	..	..	..	12

Cases referred from 1926.

One re-examined and found fit.

March, 1928.



APPENDIX A.

XXIV.—*STATISTICAL TABLES*

For the Year 1927.

Table I.—Number of Children inspected.

Table II.—Return of Defects found.

Table III.—Numerical Return of all exceptional
Children.

Table IV.—Treatment of Defects of Children.

TABLE I.

RETURN OF MEDICAL INSPECTIONS.

A.—ROUTINE MEDICAL INSPECTIONS.

Number of Code Groups Inspections :—

<i>Entrants.</i>		<i>Intermediates.</i>		<i>Leavers.</i>		<i>Total.</i>
3063	..	2195	..	2604	..	7862

Number of other Routine Inspections :—

Nil.

B.—OTHER INSPECTIONS.

Number of Special Inspections	..	..	..	8289
Number of Re-inspections	..	..	..	4301
Total number of other Inspections	..	..	..	<u>12590</u>



TABLE II.

*A.—RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION
In the Year Ended 31st December, 1927.*

DEFECT OR DISEASE.			Routine Inspections.			Special Inspections.				
			No. of Defects.			No. of Defects.				
			Requiring treatment.	Requiring to be kept under observation, but not requiring treatment.		Requiring treatment.	Requiring to be kept under observation, but not requiring treatment.			
(1)			(2)	(3)		(4)	(5)			
Malnutrition.. ..			16	..	4	..	31	..	5	
Uncleanliness			98	..	21	..	170	..	18	
Ringworm :—										
Head			12	..	4	..	61	..	4	
Body			8	..	1	..	41	..	—	
Scabies			17	..	—	..	65	..	—	
Impetigo			66	..	2	..	458	..	2	
Other Diseases (Non-tubercular)			24	..	24	..	198	..	25	
Eye ..	{	Blepharitis	42	..	1	..	145	..	5	
		Conjunctivitis	3	..	—	..	35	..	1	
		Keratitis	—	..	—	..	2	..	1	
		Corneal Ulcer	—	..	—	..	—	..	—	
		Corneal Opacities	—	..	2	..	10	..	3	
		Defective Vision	279	..	361	..	367	..	673	
		Squint	22	..	5	..	35	..	16	
		Other Conditions	63	..	53	..	70	..	122	
Ear {	Defective Hearing	21	..	10	..	37	..	32		
	Otitis Media	28	..	14	..	121	..	39		
	Other Ear Diseases	36	..	2	..	41	..	6		
Nose & Throat {	Enlarged Tonsils	105	..	368	..	138	..	347		
	Adenoids	38	..	59	..	50	..	60		
	Enlarged Tonsils and Adenoids	62	..	54	..	102	..	83		
	Other Conditions	11	..	14	..	49	..	26		
Enlarged Cervical Glands (Non-Tubercular)			13	..	131	..	34	..	106	
Defective Speech			—	..	39	..	1	..	38	
Teeth ..	Dental Diseases		367	..	28	..	339	..	12	
Heart & Circulation ..	{	Heart Disease :—								
		Organic	10	..	151	..	23	..	165	
		Functional	3	..	191	..	7	..	172	
		Anæmia	64	..	13	..	137	..	8	
Lungs ..	{	Bronchitis	53	..	120	..	115	..	60	
		Other Non-tubercular Diseases	24	..	467	..	65	..	470	
Tuberculosis {	Pulmonary, Definite	10	..	5	..	39	..	11		
	„ Suspected	11	..	14	..	58	..	27		
	Non-Pulmonary :—									
	Glands	9	..	5	..	18	..	7		
	Spine	5	..	1	..	—	..	—		
	Hip	1	..	2	..	7	..	1		
	Other Bones and Joints	1	..	—	..	3	..	—		
	Skin	—	..	—	..	2	..	—		
Other Forms	1	..	1	..	6	..	4			
Nervous System {	Epilepsy	2	..	4	..	5	..	5		
	Chorea	4	..	1	..	22	..	8		
	Other Conditions	25	..	12	..	39	..	19		
Deformities ..	{	Rickets	5	..	2	..	14	..	2	
		Spinal Curvature	2	..	1	..	4	..	—	
		Other Forms	39	..	43	..	50	..	52	
Other Defects and Diseases			76	..	43	..	852	..	117	
Goitre ..	..	..	..	21	..	31	..	60	..	60
			1697	..	2304	..	4126	..	2812	

TABLE II.

B.—NUMBER OF INDIVIDUAL CHILDREN FOUND AT ROUTINE MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

<i>Number of Children.</i>						<i>Percentage of</i>
<i>Inspected.</i>						<i>Children found</i>
<i>Found to require</i>						<i>to require</i>
<i>Treatment.</i>						<i>Treatment.</i>
Code Groups : —						
Entrants	..	..	3063	..	627	.. 20%
Intermediates	..	..	2195	..	476	.. 22%
Leavers	..	..	2604	..	444	.. 17%
Total (Code Groups)	..		7862	..	1547	.. 20%
Other Routine Inspections	—	..	—	..	—	—

COUNTY OF CUMBERLAND.

SCHOOL MEDICAL SERVICE.

TABLE III.—RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

			Boys.	Girls.	Total.
Blind (including partially Blind)	Suitable for training in a School or Class for the Totally Blind	Attending Certified Schools or Classes for the Blind ..	1	1	2
		Attending Public Elementary Schools	—	—	—
		At other Institutions ..	—	—	—
		At no School or Institution..	3	—	3
	Suitable for training in a School or Class for the Partially Blind	Attending Certified Schools or Classes for the Blind ..	1	5	6
		Attending Public Elementary Schools	—	—	—
		At other Institutions ..	—	—	—
		At no School or Institution..	—	—	—
Deaf (including Deaf and Dumb and partially Deaf)	Suitable for training in a School or Class for the Totally Deaf or Deaf and Dumb	Attending Certified Schools or Classes for the Deaf ..	8	8	16
		Attending Public Elementary Schools	3	—	3
		At other Institutions ..	—	—	—
		At no School or Institution ..	2	—	2
	Suitable for training in a School or Class for the Partially Deaf	Attending Certified Schools or Classes for the Deaf ..	—	—	—
		Attending Public Elementary Schools	4	1	5
		At other Institutions ..	—	—	—
		At no School or Institution..	—	—	—
Mentally Defective	Feeble-minded (Cases not notifiable to the Local Control Authority)	Attending Certified Schools for Mentally Defective Children	—	—	—
		Attending Public Elementary Schools	14	23	37
		At other Institutions ..	—	—	—
		At no School or Institution..	10	6	16
	Notified to the Local Control Authority during the year	Feeble-minded	—	—	—
		Imbeciles	4	4	8
		Idiots	1	—	1
Epileptics	Suffering from severe Epilepsy	Attending Certified Schools (Special) for Epileptics ..	—	—	—
		In Institutions other than Certified Special Schools ..	—	—	—
		Attending Public Elementary Schools	6	4	10
		At no School or Institution..	5	4	9
	Suffering from Epilepsy which is not severe	Attending Public Elementary Schools	2	4	6
		At no School or Institution..	—	—	—
Physically Defective	Infectious and Pulmonary and Glandular Tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	2	4	6
		At other Institutions ..	1	2	3
		At no School or Institution ..	—	—	—
	Non-infectious but active Pulmonary and Glandular Tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	12	13	25
		At Certified Residential Open Air Schools.. ..	—	—	—
		At Certified Day Open Air Schools	—	—	—
		At Public Elementary Schools	25	30	55
		At other Institutions ..	2	1	3
		At no School or Institution..	—	2	2
	Delicate Children (<i>e.g.</i> , pre- or latent Tuberculosis, Malnutrition, Debility, Anæmia, etc.)	At Certified Residential Open Air Schools	—	—	—
		At Certified Day Open Air Schools	—	—	—
		At Public Elementary Schools	768	601	1369
		At other Institutions ..	—	—	—
		At no School or Institution..	7	5	12
	Active Non-pulmonary Tuberculosis	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board	1	1	2
		At Public Elementary Schools	11	14	25
		At other Institutions ..	1	—	1
		At no School or Institution..	4	1	5
	Crippled Children (other than those with active Tubercul- ous Disease, <i>e.g.</i> , Children suffering from Paralysis, &c., and including those with severe Heart Disease)	At Certified Hospital Schools	5	2	7
		At Certified Residential Cripple Schools	—	—	—
		At Certified Day Cripple Schools	—	—	—
		At Public Elementary Schools	171	170	341
		At other Institutions ..	—	—	—
		At no School or Institution ..	—	—	—

RETURN OF DEFECTS TREATED DURING THE YEAR ENDED
31st DECEMBER, 1927.

TREATMENT TABLE IV.

GROUP 1.—MINOR AILMENTS (EXCLUDING UNCLEANLINESS, FOR WHICH
SEE GROUP 5).

<i>Disease or Defect.</i>	<i>Number of Defects Treated, or under treatment during the year.</i>		
	<i>Under the Authority's Scheme.</i>	<i>Otherwise.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)
<i>Skin.</i>			
1. Ringworm—Scalp	53 ..	7 ..	60
2. Ringworm—Body	36 ..	4 ..	40
3. Scabies	50 ..	4 ..	54
4. Impetigo	405 ..	7 ..	412
5. Other Skin Diseases	179 ..	14 ..	193
6. Minor Eye Defects	159 ..	24 ..	183
(External and other, but excluding cases falling in Group 2).			
7. Minor Ear Defects	121 ..	28 ..	149
8. Miscellaneous	1158 ..	44 ..	1202
(e.g., Minor Injuries bruises, sores, chilblains, etc.).			
Total	2161 ..	132 ..	2293

TABLE IV.

GROUP II.—DEFECTIVE VISION AND SQUINT (EXCLUDING MINOR EYE DEFECTS TREATED AS MINOR AILMENTS—GROUP I.

<i>Defect or Disease.</i>	<i>Number of Defects dealt with.</i>			
	<i>Under the Authority's Scheme.</i>	<i>Submitted to refraction by Private Practitioner or at Hospital, apart from the Authority's Scheme.</i>	<i>Other-wise.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)
Errors of Refraction (including Squint). Operations for Squint should be recorded separately in the body of the Report)	625	.. 77 ..	— ..	702
Other Defect or Disease of the Eyes (excluding those recorded in Group I)	—	.. — ..	— ..	—
Total	625	.. 77 ..	— ..	702

Total No. of Children for whom Spectacles were prescribed :—

(a) Under the Authority's Scheme	587
(b) Otherwise	46

Total No. of Children who obtained or received Spectacles :—

(a) Under the Authority's Scheme	559
(b) Otherwise	29

TABLE IV.—GROUP III.—TREATMENT OF DEFECTS OF NOSE AND THROAT.
Number of Defects.

<i>Received Operative Treatment.</i>			<i>Received other forms of Treatment.</i>	<i>Total Number Treated.</i>
<i>Under the Authority's Scheme, in Clinic or Hospital.</i>	<i>By Private Practitioner or Hospital apart from the Authority's Scheme.</i>	<i>Total.</i>		
251 ..	125 ..	376 ..	6 ..	382

TABLE IV. GROUP IV.—DENTAL DEFECTS.

(1) Number of Children who were :—

(a) Inspected by the Dentist :—

	Aged.		
	5	178	} Total 2007
	6	252	
	7	248	
	8	236	
	9	203	
Routine Age Groups	10	185	
	11	203	
	12	229	
	13	209	}
	14	64	
Specials			92
Grand Totals			2099

(b) Found to require treatment .. 1761

(c) Actually treated 1612

(d) Re-treated during the year as the
result of periodical examination 196(2) Half days devoted to Inspection 34
Treatment 348 Total 382

(3) Attendance made by Children for treatment 2063

(4) Fillings .. Permanent Teeth 363 } Total 363
Temporary Teeth — }(5) Extractions Permanent Teeth 1614 } Total 5162
Temporary Teeth 3548 }(6) General anæsthetics administered for ex-
tractions 1873(7) Other Permanent Teeth 279 } Total 279
Operations Temporary Teeth — }GROUP V.—UNCLEANLINESS AND VERMINOUS
CONDITIONS.(1) Average number of visits per school made during
the year by the School Nurses 3(2) Total number of examinations of children in the
schools by School Nurses 53535

(3) Number of individual children found unclean .. 805

(4) Number of children cleansed under arrangements
made by the Local Education Authority .. —(5) Number of cases in which legal proceedings were
taken :—

(a) Under the Education Act, 1921 .. —

(b) Under School Attendance Bye-laws .. —

APPENDIX B.

FURTHER NOTES

ON THE

TREATMENT

OF

DEFICIENCY DISEASES,

Believed to be due to Mineral Deficiency,

BY

(a) IODINE, (b) CALCIUM.

NOTES

BY

KENNETH FRASER, M.D., D.P.H., F.R.S.E.,

Deputy School Medical Officer.

The attached reports from two areas of the County in which Iodine has been widely used during 1927, illustrate clearly the scope of the work which is being undertaken in individual cases and in different diseases. It may be said that one of the chief points of interest has been in the variable results obtained from Iodised Butter Scotch sweets. During the year the composition of the brand employed in this County was changed without our knowledge from resublimed Iodine to Sodium Iodide. The results for some reason thereafter became irregular; a position difficult to understand, because the Iodine content of Iodised Chocolates is, so far as I know, invariably Sodium Iodide, and the results with these have been exceedingly good.

Dr. Towers' comment that adult cases do best on Collosal Iodine confirms my own experience. This applies to all varieties of Iodine deficiency cases, and especially, perhaps, to boils, goitre (all varieties), and intestinal conditions.

No doubt it is all to the good that results have varied, that some cases have failed to respond, because inquiries immediately arise to find out the reason. Dr. Leitch and Miss Stuart, from the Rowett Research Institute, visited the County during the course of the year to obtain samples of milk, meat, eggs, vegetables and pasture from various areas of the County to estimate, by analysis, their Iodine content. The work of the Rowett Institute on mineral deficiency problems is, of course, world-wide, and the practical value to agriculturists of the work done by the Institute all over the world is well known. The theory propounded by the representatives who visited Cumberland to explain the Iodine "failures" is that such cases are probably Iodine normal but Calcium deficient. It is therefore proposed to take a number of blood samples for analysis at the Institute to test whether this theory is, in fact, correct. These samples will be examined

for their Calcium and Iodine contents. The use of Calcium is being developed in one or two directions, chiefly in tubercular cases. The predisposition of animals suffering a heavy Calcium loss (*e.g.*, animals in milk) to tuberculosis is well-known, and many observers have reported good results in both tuberculosis of the lungs and surgical tuberculosis from the use of Calcium. There are at present three groups of cases on Calcium treatment, either alone or combined with Iodine :—(a) *general cases*, where Iodine has failed, and in these two grains of Chloride of Calcium is given three times a day ; (b) *Surgical tuberculosis* with discharging sinuses, and in these Chloride of Calcium is given by the mouth as in (a), but also Collosal Calcium injections are given intramuscularly ; (c) *Pulmonary tuberculosis*. One case of this is under treatment with Calcium and Iodine in combination. This case was referred to twelve months ago as being under injections (intramuscular) of *Iodeol* (Iodine in Oil). The patient, an adult girl, was a very advanced case of Pulmonary Tuberculosis when she first came under treatment. She was, as a matter of fact, seen by five medical men, and the unanimous opinion was that three months was the probable outside limit of her life. She improved dramatically and amazingly on the Iodeol injections, and to-day, after nearly two years, her vitality, energy, and appetite are very greatly above what they were eighteen months ago. She has put on weight, her temperature for long periods has been almost steady on the normal line or about it, and the physical signs show little if any extension from eighteen months ago. Her temperature used, before the injections, to swing daily between 104° and 96° . Her treatment has included Iodine by the mouth (in the form of Cod Liver Oil containing Tincture of Iodine-potassium Iodide free), Iodeol injections intramuscularly, injections of Sodium Morrhuate, which were a failure, and Calcium by the mouth in the form of Chloride, and intramuscular injections of Collosal Calcium.

Her best periods have been those when she has been getting Iodine and Calcium simultaneously—one by the mouth, the other intramuscularly. It has been a most encouraging case, and having regard to her condition when first seen, it is a miracle that she is alive at all, let alone the fact that she is now vastly better than she was eighteen months ago, and suggests that early cases of Pulmonary Tuberculosis may well be expected to show very good results indeed on this line of treatment.

NEW CLINICAL POINTS.

Nervous Diseases.—Iodine has been tried by three Members of the Staff acting independantly on the nervous diseases common to children, viz.:—Chorea (St. Vitus' Dance) and Epilepsy. The numbers were small, three cases of Chorea being treated and two of Epilepsy. All five were treated with Iodised Tablets of one kind or another. The three Chorea cases, as will be seen by a reference to the Notes by Dr. Towers and Dr. Simpson responded remarkably well. The respective comments being that the Chorea (a) "has gradually subsided," (b) "ceased," (c) "was treated with great advantage," case (c) gained one stone four pounds in eleven months. One case of Epilepsy was in another area (Wigton area, Dr. M. S. Fraser) of the County. This case, a boy, had 10 fits during the twelve months before the date on which he was put on Iodised Sweets (17/6/27). His mother reports, 28/2/28:—"I am glad to say that Joseph is keeping better since he started taking the Sweets with Iodine. He has only had two fits since he started with them; he had two the middle of last August, but they were not very severe ones, as they used to be, and he had measles just about the time as well." This boy has had no fits for six months. The other case of Epilepsy was in Dr. Simpson's area, "a very debilitated nervous child, who had periodic fits. After commencing treatment with Iodised Butter Scotch the fits were far less frequent, and there was marked improvement in her general condition." This child gained half-a-stone in seven months.

These are very remarkable results.

Conjunctivitis.—A considerable number of cases of this condition (inflammation of the eye) were treated at the Wigton Clinic with complete success. The method was to drop a few drops of Collosal Iodine into the affected eye two or three times a week.

Alopecia.—This condition, which is loss of hair, and may amount to complete baldness, has, as will be seen by a reference to Dr. Towers' notes, been successfully treated (two cases) by external applications of Collosal Iodine Oil.

Dr. M. S. Fraser has treated one case of Alopecia with Collosal Iodine following Iodised Sweets. The Alopecia was completely cured in five months. This child had concurrently a large goitre, which markedly improved at the same time.

Some years ago I treated a boy in my own area of the County who was completely bald, and had been so for a long time, amounting, I think, to years, with Iodine internally. I saw him twelve months later, when he had a very fair crop of hair, and bed-wetting, from which he also suffered, had completely ceased. All previous lines of treatment had failed. The association between Iodine starvation and loss of hair in animals is, of course, well-known, as is the improvement when Iodine is added to the diet.

It may be worth while to repeat here the list of conditions for which Iodine treatment in one form or another has been tried in this area, with results in most cases excellent, and in many phenomenal. The results, as regards the degree of success obtained in the treatment of different conditions has varied even in different areas in this County ; one area showing specially good results in, for example, skin diseases, the next in chest conditions, the next in goitre, and so on ; whether the results have varied in the same way in other parts of England, and in other countries, one does not know.

What is known is that the sale of Iodine all over the world has increased by leaps and bounds, and one can infer that an immense amount of valuable work is being done. An attempt was made to collect in one report what was known of Iodine treatment two years ago, but no doubt much more could, and should, now be written. Enquiries continue to reach this department from all over the world ; within these last few weeks enquiries have come from India, Australia and Belgium. It is gratifying to realise, as is quite evidently the case, that the experimental work which has been, and is being done, in the school clinics, and in the school medical service in general, of this County, has aroused a world-wide interest in a subject which as pure preventive medicine has almost unlimited possibilities. It would, I imagine, be correct to say that thousands of letters have been sent to enquirers on the subject giving any advice or help that our experience here has enabled us to give. It is unfortunate that very few of the promises to "report progress" have been kept. This might mean that no good results have been obtained, but that this is not the explanation is proved by the replies received, and in a proportion of the cases in which further enquiry letters were sent from this office. Nearly all of these had excellent results to report, and some were enthusiastic. The reason for their silence was, I suppose, the same as Dr. Towers has found among his clinic patients locally—the objects of the original enquiry had been attained, and there the matter ended. It is regrettable, but it is human nature.

LIST OF CONDITIONS TREATED BY IODINE IN
THIS AREA.

<i>Condition.</i>	<i>Remarks.</i>
Malnutrition, Debility and Poor Physique	..Excellent results. As a general tonic, <i>e.g.</i> , after influenza, particularly good. The improvement in the physique of malnourished children is almost unbelievable in many cases.
Pulmonary Tuberculosis	..Still in the experimental stage.
Abdominal Tuberculosis	..Number of cases limited ; the results have been excellent.
Pretubercular Children	..Excellent results.
Chronic Bronchitis and Asthma	..The results have varied. In some areas the results have been excellent. Dr. Simpson reports only poor results.
Boils	..Almost all cases have entirely cleared up. In adults on Collosal Iodine.
Nocturnal Enuresis (Bed-wetting)	..The results this year have varied. There have been some complete failures. Previously there were no real failures, and about 75% of complete cures. A possible reason is the change in the Iodine content of the sweets (see notes).
Thread Worms	..All cases—a considerable number—have been completely cured.
Goitre.	
(a) Simple Goitres	..Large numbers have been under treatment with varying results. Many have disappeared completely, others have not been altered. The condition is of little importance except for the disfigurement.

- (b) Exophthalmic Goitre .. Two cases have cleared up completely on Collosal Iodine. A good many more have benefited in one direction or other, and in all there has been a very marked steadying of the pulse rate.
- Skin Diseases .. Large numbers of these have been treated: (a) with Iodine alone, (b) in combination with local treatment. The conditions have included Eczema, Psoriasis, Septic Sores, Acne, &c. The results have been so uniformly good that in some of the clinics Iodine (internally) has become practically a routine part of treatment in all skin diseases.
- Chilblains .. Excellent results.
- Alopecie (Loss of Hair) .. Iodine has been tried internally and externally (Collosal Iodine Oil) with very good results on about eight cases in all.
- Conjunctivitis .. Collosal Iodine drops in the eye has (Inflammation of the eye) been the sole treatment for this condition in one clinic for several years.
- Intestinal Intoxication .. The bearing of this on Iodine starvation was discussed at length in 1926. It is mainly a condition of later life. A number of very good results have been obtained. A new line of treatment—Iodine in an inert oil is referred to later.
- Nervous Diseases of Childhood, Chorea (St. Vitus' Dance), and Epilepsy .. This matter has been referred to earlier in this report. It is a new line of enquiry, and is still in the experimental stage.

NEW LINES OF INVESTIGATION.

The direct therapeutic uses of Iodine in different conditions have in this area been fairly fully explored—at any rate of Iodine in the form in which it has been used. Certain new channels or expansion of existing methods are under contemplation, and it is hoped that some, and possibly all of these may be tested during 1928.

A Milk Experiment.—It is proposed to test the effect on the output and quality of milk of grazing cows in milk on pasture fertilised with Chilean Nitrate of Soda, which has a definite Iodine content. Briefly the scope of the experiment is this :—A certain number of cows will be grazed on pasture fertilised as above, and a corresponding number of control cows will be fed on other pasture. Both consignments of milk will be sent to a large institution, which will obtain other milk locally as well. There will, therefore, be what one may call Iodised milk and two control supplies of milk. Groups of infants of corresponding ages will be fed on the three supplies, and the gains in height and weight, and general results, will be supervised by an expert in the feeding of infants. The experiment will be somewhat costly, but none of the cost will fall on this County. Various analyses of pasture, milk, etc., will be required as an ancillary control. The Storms Farm Dairy, Ltd., Keswick, and the Medical Superintendent of a large Institution in Scotland, have intimated their willingness to co-operate.

Iodine in Air.—A few preliminary experiments in the preparation of which distinguished chemists have co-operated, appear to show that blocks of Iodine in Naphthaline suspended in school classrooms have a beneficial effect on the health of the school children in these rooms, and result in a decreased incidence of epidemic disease. That at least is the opinion of the teachers of the schools concerned. It is proposed during 1928 to make definite experiments on these lines. It is proposed to test these blocks of Iodine in Naphthaline in certain infants' schools in a large urban area, *e.g.*, Maryport, using the other infant schools in the same area as controls, and comparing the incidence in the two groups of infectious disease during, say, twelve months. It is also proposed to take a line across the County, say from Workington to Penrith, and to similarly test schools on or near the line, to see whether the schools supplied with these blocks will resist waves, *e.g.*, of influenza, passing from East to West, or West to East, of the County better than the others.

Iodine in Oil.—The value of Iodine in intestinal sepsis is quite definite, and many cases have been successfully treated. The value of liquid paraffin—an inert oil acting mechanically—is also well-known. Experiments have been begun with the two in combination one-tenth grain of Colloidal Iodine in two teaspoonfuls of the paraffin. It is expected that the results will be very good indeed.

As this Report goes to press, the following Report from Dr. Towers on one of the cases on this line of treatment has been received and is therefore included :—

“ I am forming a most favourable opinion of Iodised Liquid Paraffin. Since writing to you on the subject a day or two ago, I have seen one of the Millom cases (abdominal tuberculosis). This boy was a perfect trial to his mother ; one of the most intensely obstinate cases of constipation I have ever known. The District Nurse used to call daily to give enemata, and even then very often nothing resulted. I was really alarmed at times—his abdomen was enormous. His mother is delighted with the Iodised Paraffin. His bowels move regularly every day as long as he is taking it, and his abdomen has gone down inches. No one who did not have to deal with him at his worst can have the remotest idea of the improvement. It used to be quite a regular thing for him to go from anything from 5 to 12 days without bowels acting at all.”

Pulmonary Tuberculosis.—It is hoped and expected that funds may be forthcoming from a private source to subsidise two beds in an Institution for the treatment and observation of selected early cases of Pulmonary Tuberculosis with the Calcium and Iodine combination treatment, which has proved so promising in the advanced case referred to. An advanced case does not provide a fair test for any such treatment. The necessary money has practically been promised.

Blood Tests.—It is hoped in co-operation with the Rowett Institute to undertake a number of blood tests in children with regard to (a) Iodine deficiency, (b) Calcium deficiency. It is hoped that from this series of tests the reasons for such failures as we have had in our Iodine treatment may become apparent.

Puerperal Sepsis.—If possible, some tests will be carried out on the effect of Iodine internally on Puerperal Fever and Puerperal Sepsis. It is known that the confinement is a severe drain on the Iodine store of the mother, and that on the third day thereafter the Iodine content of the blood falls to its lowest level. It is at least suggestive that it is also on the third day after the confinement that the symptoms of Puerperal Fever and Puerperal Sepsis usually begin to manifest themselves.

Calcium Treatment.—It is intended to expand very much during 1928 the small amount of experimental work that has been done so far with Calcium. It is proposed to test the effects of small doses of Chloride of Calcium on selected cases, and perhaps especially on pretubercular children, and on certain conditions in which Iodine has not been altogether satisfactory. It is also proposed to test further the treatment of Tubercular Sinuses with Calcium intramuscular injections. The association between Calcium deficiency and Tuberculosis is becoming more definitely understood, and very good results have recently been claimed for the Calcium treatment of Tuberculosis. One case of surgical Tuberculosis in this County has in the past few weeks shown such a remarkable improvement on Calcium that it is worth quoting at some length.

The case, a girl of 15, was operated on for tubercular disease of the hip 10 years ago. Since then she has been grossly deformed, and latterly unable to walk. For a long time, I think several years, she has had discharging Sinuses round the hip joint. The Orthopædic Specialist advised her removal to Oswestry for an operation to correct the gross deformity of her leg.

The difficulty was that no surgeon would undertake such an operation while the sinuses were still discharging, and if sent to hospital it was unlikely on past experience of such cases that the length of stay would be less than two years—on account of the sinuses, which were particularly intractable, she having been in and out of hospital several times in ten years, and having had various minor operations, *e.g.*, scraping, to deal with the sinuses. Almost as a forlorn hope she was placed on Calcium treatment— $7\frac{1}{2}$ grains of Chloride of Calcium daily by the mouth, and $\frac{1}{2}$ cc of colossal Calcium injected into the muscles once a week. The result has been remarkable; two sinuses out of the four have completely healed; the remaining two are almost but not completely healed. Her general condition, vitality and mentality have quite altered. This result has taken place after four weeks' treatment! One is aware that sinuses have an unpleasant habit of healing and breaking down again, but nothing resembling the present state of either her general or local improvement has been seen for at least several years. If the improvement is permanent, as one hopes and expects, then her ultimate stay in hospital for the correction of deformity need not exceed six months, as against an estimated two years, meaning a saving in maintenance costs of nearly £200.

NOTES

BY

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During the year just concluded, treatment by means of Iodine in various forms has been continued and extended, not only as regards the numbers of cases treated, but also as regards the class of patient. Instead of dealing only with school children, as was the case last year, the present Report contains notes of cases treated in the Maternity and Child Welfare Clinics and Tuberculosis Dispensaries, with varying degrees of success.

It is a matter for regret that it has not been possible to carry out the same intensive treatment as was done last year, and it has been impossible to keep cases under the same close continuous supervision. This has been due to two main causes:—(a) the increasing demands on time of statutory duties, and (b) the vastly increased number of cases that have come under treatment. The number treated during 1927 has been about 125, as compared with about 40 during 1926; the vast majority of the increase in 1927 being new cases.

During 1926 it was found possible to devote a certain number of days to special clinics for the review of these cases only. This was found the best way of making observations, and the number of cases, being reasonable, the extra clerical work and organisation involved, though imposing some difficulties, was not impossible of achievement. The same method was projected in 1927, but it soon became evident that the larger number of cases, combined with the difficulty in finding spare days, made this impossible. All records and observations possible had to be made during the ordinary school clinics. This is most undesirable, as the normal attendances at the ordinary clinics is such as to make it impossible to devote extra time to any particular class of case.

A more profuse amount of material would certainly have been available had parents co-operated to a greater extent. Towards the end of the year it was realised that

a large number of cases had ceased to attend after one or two appearances. The majority of these were subsequently seen, and almost invariably the reason given for discontinuing attendance was that the children were so much better that they did not think it worth while bringing them again. This is satisfactory as far as it goes, and the attitude of the parents quite reasonable, but it has deprived one of the opportunity of making consecutive notes on what it is not unreasonable to assume, were some of the most successful cases. Such a gap in attendance, under the conditions obtaining in 1926, would not have been possible. Means have had to be devised to try and make such a thing impossible in future.

METHODS OF ADMINISTRATION.

With increased experience, it is becoming more and more evident that the administration of Iodine in the form of Iodised Sweets is the simplest and most convenient method. In an adult, however, I am inclined to believe that Collosol Iodine gives even better results, whereas in children this form does not appear to produce its results so rapidly, or to the same extent. At least this has been my own experience.

It was observed during the year that the Iodised Butter Scotch had ceased to be efficacious. This was found to be due to the substitution of one form of Iodine for another. In the area of which I have charge, the results were found to be contradictory, some cases doing very well, others being complete failures.

I have come to rely more and more on the Iodised Chocolate Cubes, the results of which have been uniformly good. Where they have failed, no other form has succeeded. One or two cases have done exceedingly well on the Collosol Iodine Pastilles, but these have not been used to any great extent.

During the year a new form of tablet was used, "Iodicin" (Burroughs Wellcome & Co.). Theoretically these tabloids, a combination of Calcium and Iodine (Calcium Iodo-ricinoleate) should have proved a great step forward in administration. While I have found them to be quite successful and reliable, so far I have not found that they possess any superiority over the plain iodised sweet. They have not, however, had much of a test so far, and I am quite prepared to have to alter my views with further experience. As is usually the case, however, I have found one or two cases

that have done particularly well on these, when all else failed. This appears to be the usual experience, whatever form is employed.

Intra-muscular Injections.—This method was tried in this area for the first time. The result was a positive failure, though under the circumstances it is difficult to see how it could have been anything else. The injection used was Iodeol, a suspension of Colloidal Iodine in Oil. Injections of 1c.c. were given every 2nd day, but after comparatively few doses, the patient refused to continue, owing to some pain and sickness. The latter did not appear to be in any way due to the injection. After a rest, the patient was induced to try a further course, but with the same result after a few more injections. These injections were accompanied by the oral administration of Calcium Chloride.

The patient was a young female adult, the subject of a very acute pulmonary tuberculosis in an advanced stage. Apart from this fact, the mental outlook of this girl was such as to render her a somewhat unfavourable case. She showed not the slightest desire to recover, and, in fact, seemed positively to resent any slight improvement that might take place. There were circumstances connected with her history that rendered such an attitude quite understandable.

In spite of this, some encouraging points came out. Undoubtedly both the cough and the sputum were lessened; those attending her were emphatic on this. There was also noticeable a slight contraction of the area over which fine crepitations were heard. The swinging temperature, however, remained quite unaffected, and continued its violent oscillations until she died.

External Application.—In the form of Collosol Iodine Oil, Iodine was used in two cases of Alopecia with most satisfactory results. One case was the result of Ringworm, the child having a large number of patches of complete baldness. In the other case there was no apparent cause. This girl had a large patch on the top of the scalp, 5—6 inches long and 2 to 3 inches broad, over which the hair came out progressively. In both cases the rubbing of Iodine Oil into the scalp three or four times a week eventually restored the growth of hair completely. It had previously been tried in cases of active Ringworm of the Scalp with no success, but the very good results in the above cases induced me to try again in the case of Ringworm, but again without result.

General.—A number of illustrative weight charts are appended, with brief notes of each case. A vast number were treated with varying degrees of success which do not call for weight records. A considerable number of other cases have been lost sight of ; all efforts to get them to attend for review having failed. A certain number of cases were complete failures, more particularly cases of Enuresis. Likewise some cases of infection with threadworms failed to respond. In this latter group of cases, especially those associated with abdominal symptoms (attacks of pain, sickness and occasional vomiting—not uncommon in my experience) one is lead to think that possibly the appendix is the cause of the trouble by harbouring and acting as a breeding ground for the parasites. In consequence a chronic irritative state of the appendix is not unlikely, and on this basis, the symptoms and failure of treatment are accounted for. This is not an unreasonable supposition, in view of the number of cases in which the appendix is found, at operation, to contain worms.

A particularly interesting case is No. 14. This boy was much debilitated after an attack of scarlet fever. He was given Iodised Butter Scotch (Sod. Iodide type), and his mother reported most definitely and emphatically that he commenced to improve at once. His weight chart certainly bears this out. The general improvement, apart from weight increase, was so remarkable, that it naturally raises the question whether there is a specially marked drain on the Iodine content of the thyroid in scarlet fever, with consequent Iodine-starvation on convalescence. I am anxious to make observations on further cases of scarlet fever convalescents, but up to now the material has not been available.

The most remarkable weight increase is that seen in the chart of case No. 22. This boy has attended the Dispensary for some years, being an old Sanatorium case. Now he is an arrested lung T.B. and a quiescent T.B. glands of the neck. Apart from his increase in weight, which is quite disproportionate to his growth, his mother states : " he has never been so well in his life."

It might, perhaps, be as well to emphasise the fact that a mere weight increase is not the goal aimed at. Were this the case, a great many more charts could have been given. In a large number of cases treatment has been quite successful, though nothing abnormal in weight increase has occurred. A satisfactory increase in weight is, however, a very fair index of progress in a growing child. Hence the emphasis laid on this aspect.

Dosage.—It is possible that a certain number of cases have failed to respond, owing to insufficient dosage ; certainly increased experience seems to show that cases in the past have been under-dosed. In this area there have been instances of cases showing the first signs of improvement on increasing the amount of Iodine taken. I now make it a practice to give two sweets per week (in the case of Iodicin, Chocolates or Butter Scotch) instead of one every fifth day, as used to be the practice. In the case of Collosol Iodine Pastilles, no change has been made, two per day being given.

Choice of Subject for Iodine Administration.—In this respect I cannot say that I have made any progress, and find that it is still quite impossible to foretell what type of case is suitable, and to an even less extent, which individual. It has been disappointing to find that quite a number of children with Enuresis and Thread-worm infection have failed to respond, though here we are probably dealing with one complaint and not two. One possible explanation for this, at least, has been given in another part of this report.

Generally speaking, cases of Rickets show definite improvement, more particularly when the Iodine is combined with cod liver oil emulsion. It has been noticed that these cases do better on this combination than they do on either Iodine or emulsion separately.

Cases convalescent from acute infections also appear to be amenable to treatment, as do children in tubercular and pretubercular states (lung cases), but disappointment has been experienced in cases of abdominal tuberculosis. The majority of children with Enuresis respond well, and even those in which this condition is not cleared up do well in other respects.

On the following page are given two tables showing generally the results of treatment. Table I. gives a summary of all defects, whilst Table II. gives similar information as regards individual defects, *i.e.*, Table I. is a table of *Individuals* ; whilst Table II. is one of *Defects*.

As regards the headings, it is to be noted that some defects do not admit of being classed as "Cured" under any circumstances, or however well they did, *e.g.*, cases of Tuberculosis, Rickets, &c. In these cases the category "Much Improved" represents the highest grade possible of attainment for that particular defect.

The large number that "Ceased to Attend" is well seen, and there can be little doubt that a great number of these would have appeared under "Cured," "Much Improved," and "Improved," had a subsequent review of these cases been possible.

TABLE I.

Number of cases treated	..	..	..	..	119
Cured	..	..	..	..	20
Very much improved ..	..	..	..	..	27
Improved	..	..	..	..	22
In statu quo	..	..	..	..	11
Worse	..	..	..	..	0
Ceased to attend	..	..	..	..	34
Left the district	..	..	..	..	4
Died	..	..	..	..	1

TABLE II.

	Cured.	Very much improved.	Improved.	In statu quo.	Worse.	Ceased to attend.	Left district.	Died.
Skin Conditions ..	4..	1..	1..	—..	—..	5..	—..	—
Alopecæia ..	2..	—..	—..	—..	—..	1..	—..	—
Psoriasis ..	1..	1..	—..	—..	—..	—..	—..	—
Pretubercular ..	—..	1..	—..	—..	—..	—..	—..	—
Thyroid								
Insufficiency ..	—..	5..	3..	1..	—..	1..	1..	—
Enuresis ..	5..	2..	1..	3..	—..	8..	—..	—
Chorea ..	4..	1..	—..	1..	—..	5..	1..	—
T.B. Lungs and								
Glands ..	—..	3..	2..	1..	—..	—..	1..	1
T.B. Abdominal ..	—..	—..	3..	—..	—..	—..	—..	—
Bronchitis and								
Asthma ..	—..	—..	2..	—..	—..	—..	—..	—
Worms ..	2..	—..	2..	1..	—..	3..	—..	—
Rickets ..	—..	4..	2..	1..	—..	—..	—..	—
Epilepsy ..	—..	—..	—..	—..	—..	1..	—..	—
Malnutrition ..	—..	—..	3..	—..	—..	—..	—..	—
Other Conditions ..	2..	9..	3..	3..	—..	10..	1..	—
Totals ..	20..	27..	22..	11..	0..	34..	4..	1

In the preceding tables, the case referred to as having died is the one referred to earlier as having had injections of Iodeol.

In the notes of individual cases which follow, it should be noted that a few cases are given only, and some weight charts are added. A number of other cases did quite well, and it should not be assumed that because notes are not given or charts added that they were failures.

In all cases treatment was commenced on the earliest date given, either in the notes or on the charts where these are given, unless stated otherwise.

In referring to "Butter Scotch," it is necessary to distinguish between the original (resublimed Iodine), and the "new" (sod. iodide) varieties. To avoid confusion, and for the sake of brevity, these are referred to as "No. 1" and "No. 2" respectively.

ILLUSTRATIVE CASES WITH WEIGHT RECORDS.

CASE 1.—R.B.—BOY, 10 YEARS.—MALNUTRITION AND PRETUBERCULAR.

A very difficult and, in some ways, an unsatisfactory case. An adopted orphan and a T.B. Contact (both foster-parents). Is small, undersized, and badly nourished. For some years had faecal incontinence, which has now ceased. Home conditions very unsatisfactory. Chronic blepharitis. Is improving steadily, though a very uphill task to maintain the improvement.

CASE 2.—K.F.—GIRL, 6 YEARS.—ENURESIS.

A very marked case. Was treated at first with Iodised Butter Scotch, but as at the end of six weeks, though putting on a lot of weight, the trouble still persisted, a change was made to Iodised Chocolate. The enuresis has now quite ceased, and she is much improved. (Note.—The Butter Scotch used at first was No. 2).

Weight.—15/2/27—2st. 11lb.

,, 24/1/28.—2st. 11lbs.

CASE 3.—W.F.—BOY, 7 YEARS.—ABDOMINAL T.B.

Very marked abdominal distension, bowels exceedingly obstinate. No tenderness or rigidity, but masses felt (indefinite) suggestive of matted bowel. Was lethargic and appetite was very poor. Has improved considerably, bowels not so intensely obstinate, is more active and lively, and appetite now good. General condition not altogether satisfactory, and will need further treatment. Treated with Iodised Butter Scotch (No. 1) at first, later with Iodised Chocolate.

CASE 4.—A.E.—BOY, 8 YEARS.—RICKETS.

General condition very much improved. Sleeps and eats well. Abdominal distension reduced. Bowels more regular than they were, but still obstinate. Tongue clean and moist. Treated with "Iodicin" Tablets, two a week.

CASE 5.—J.G.—BOY, 9 YEARS.

This was an average, healthy boy, who was brought by his mother on account of a frequently recurring rash, suggestive of urticaria, and probably of intestinal origin. He was given "Iodicin" Tabloids, one twice a week. The result has been very good, the rash has not recurred, and his general condition is improved.

CASE 6.—J.B.—BOY, 7 YEARS.—CHOREA.

Brought to the Clinic for treatment for severe "twitching" and "pulled the bed-clothes to bits." Had severe choreic movements when first seen. Was excluded from school, and the usual instructions given. Given Iodised Chocolate. Chorea has gradually subsided, and his general health is much improved. Mother states appetite now very good and sleeps quietly. Now attending school again.

CASE 7.—F.J.—BOY, 12 YEARS.—POST SCARLET FEVER DEBILITY.

Appears to have been perfectly normal till he had an attack of Scarlet Fever, after which he was unusually debilitated, poor appetite, lethargic, etc. He was put on Iodised Butter Scotch, No. 2, and his mother states he began to eat better from the first dose. The gain in weight is unusually rapid. The average weight for boys of his age in the district is 5st. 12lbs. Within four months he gained 7lbs., rising from 2lbs. below the average to 5lbs. above it. Another point

of interest about this case is the fact that he did so well on the Sod. Iodide type of sweet, being quite exceptional in this respect.

Weight.—6/9/27, 5st. 10lbs. ; 3/1/28, 6st. 3lbs.

CASE 8.—J.G.—BOY, 13 YEARS.—BRONCHITIS AND ASTHMA.

Has attended the Clinic (somewhat irregularly) for a considerable time. Has typical attack of Asthma. These attacks have not ceased nor improved to any great extent, but his general condition is much more satisfactory. The first real and maintained improvement was seen after he commenced "Iodicin" Tablets.

CASE 9.—E.McC.—BOY, 9 YEARS.—ENURESIS.

Moderately severe case, with general debility, anæmia, loss of appetite, succession of styes, etc. Also has enlarged tonsils and adenoids, but father will not consent to operation. Treated with Collosol Iod. Liq., and later with Iodised Chocolate. Enuresis now quite ceased, and his general condition is vastly improved, but still catches cold very easily, and gets Bronchitis, &c., almost certainly the result of T. & A.

CASE 10.—E.B.—GIRL, 11 YEARS.—"DEBILITY."

Appetite poor, lethargic, headaches, etc. Also had enlarged tonsils and adenoids, which were removed. Has made very steady and continuous progress. The mother states she is now lively and energetic. She has a very small Goitre unaffected by treatment.

Weight.—5/9/27, 4st. 6lbs. ; 4/1/28, 4st. 13lbs.

CASE 11.—M.D.—GIRL, 6 YEARS.—CHOREA.

Fairly marked case. Treated with "Iodicin," one twice a week. Has done very well, Chorea ceased, appetite improved, etc. Had a small thyroid enlargement, which has definitely become smaller.

CASE 12.—H.C.—BOY, 2 YEARS.—MALNUTRITION.

Has been treated throughout the year. A difficult case to manage ; when first seen nutrition and appetite both very poor. Had some swollen glands in the neck, which show a tendency to recur from time to time. Contracted Influenza in March, and subsequently got ulcerative stomatitis. During past three months has improved considerably, is more

energetic and lively, and has kept free from colds, in spite of very bad weather, slight recurrence of glandular trouble in November being only point of note. Treated with Iodised Chocolate, and is still under treatment. Has also had Cod Liver Oil Emulsion.

CASE 13.—J.L.—BOY, 26 MONTHS.—RICKETS (SEVERE).

When first seen in May, 1927, had not yet started to walk. Has made steady progress, without any special features of note. Treated with Butter Scotch (No. 2). Started to walk soon after first seen.

CASE 14.—H.H.—GIRL, 12 YEARS.—CHOREA.

Definite case without any special points of interest, except that rheumatic pains in limbs have not yet cleared up. Chorea ceased. (Butter Scotch No. 2).

Weight.—21/2/27, 4st. 2lbs. ; 24/1/28, 4st. 9lbs.

CASE 15.—M.K.—GIRL, 11 YEARS.

This girl showed a good many features of thyroid insufficiency, anæmic and lethargic, dry skin and hair thin and tending to come out, etc. Neuralgic pains in head for which some teeth were extracted without benefit. Has improved very much on Iodicin, one twice a week, head pains gone, appetite better, and no longer so lethargic. Still under treatment.

CASE 16.—M.B.—GIRL, 11 YEARS.—“DEBILITY.”

Advice sought for general debility, succession of septic sores, with glandular enlargement, loss of appetite, lethargy, etc. Also pains in limbs, apparently rheumatic. Given Iodised Chocolate. Has made steady progress, and is very much improved. Appetite good, sleeps well, and no recurrence of pains or septic sores.

Weight.—7/2/27, 4st. 3lbs. ; 25/1/28, 4st. 12lbs.

CASE 17.—F.D.—BOY, 8 YEARS.—ENURESIS.

No special comments called for. Enuresis has entirely ceased on Collosol Iodine Pastilles, one twice a day.

CASE 18.—H.G.—GIRL, 14 YEARS.—PHTHISIS (ARRESTED).

This girl has attended a dispensary for a number of years and is an old Sanatorium case. There have been no sign of active T.B. for over four years, but her weight has tende

to be very irregular, and marked lethargy, anæmia, etc. For the past two or three years has been growing and developing at an abnormal rate. Appetite "picky." Syrup Ferri Iodi was given, but caused sickness, and had to be abandoned. Later was given Iodised Chocolate with satisfactory results, weight has increased rapidly and steadily, lassitude practically gone, and appetite improved.

CASE 19.—A.C.—BOY, 14 YEARS.—PHTHISIS (ARRESTED), T.B. GLANDS (QUIESCENT).

Like the previous case, an old Sanatorium case. No special remarks called for, except that his gain in weight during past twelve months has been abnormally rapid, and steadily progressive. During twelve months he has gained 14lbs. His mother states he has never been so well in his life. Iodised Chocolate and "Iodicin" have both been used in this case.

Weight.—19/10/26, 5st. 9 lbs. ; 10/1/28, 6st. 13 lbs.

CASE 20.—D.E.—BOY, 13 YEARS.

No definite defect found. Boy rather overgrown, pale and somewhat anæmic. History of frequent "fainting attacks" in school. Has improved very much, has not fainted for over four months. Weight increase very satisfactory.

Weight.—7/2/27, 5st. 6lb. ; 7/2/28, 6st. 2lb.

CASE 21.—H.P.—GIRL, 4 YEARS.—ENURESIS.

First seen October, 1927. History of Enuresis occurring every night. Given Iodised Chocolate, one every fifth day to commence with. At the end of November mother reported very much better, no bed-wetting occurring for about three nights after taking a sweet. Dose increased to two per week. Mother reports that during January bed-wetting only took place twice. This case illustrates the tendency to under-dosage.

CASE 22.—C.F.—BOY, 7 YEARS.—ENURESIS.

Commenced treatment 18/10/27. On 4/1/28, Enuresis reported entirely ceased.

CASE 23.—J.C.—BOY, 11 YEARS.—ALOPOEZIA.—Very marked case following on Ringworm of scalp. Several scattered patches completely denuded of all signs of hair. Collosol Iodine Oil rubbed into scalp daily, and Collossol, 1. Pastilles

given internally, two a day. A steady improvement has taken place. Treatment was commenced on 6/9/27. By the end of 1927, the bare areas were well covered with hair of a bleached tinge, and growth thin. Since then the hair has thickened, and has tended to blend in colour with the rest of the hair. Has now ceased treatment; site of the bare patches can only be made out with difficulty and after very close scrutiny.

CASE 24.—M.D.—GIRL, 7 YEARS.—ALOPOECIA.

A very similar case to the last, only in this case it was not possible to trace any cause for the bare patches. In severity, extent of bare areas, result of treatment and time spent on treatment, the cases are practically identical, and were treated on exactly the same lines.

CASE 25.—H.B.—GIRL, 12 YEARS.—PSORIASIS.

A very obstinate case. Owing to carelessness at home it was obvious that instructions were not being carried out. Local treatment alone failed. Treatment with Iodine alone likewise failed to produce any marked improvement. Subsequently both methods were tried simultaneously, with very marked effect, possibly due in part to greater care at home. The family was about to emigrate to the U.S.A., and the fear of being rejected by the emigration officials was a spur to greater exertions and care. The disease affected the neck, shoulders, arms, back, and knees. When last seen all the silvery scales had gone, only a faint redness remaining to show where the disease had been most marked, and even this was showing signs of fading.

CASE 26.—K.Q.—GIRL, 12 YEARS.—GOITRE.

The only case that was treated for this; in other respects she called for no treatment, being a fine specimen physically. Pulse rate was decidedly fast (112). At the end of three months the thyroid was unaffected, but the pulse rate had slowed down to the normal rate.

CASE 27.—J.G.—BOY, 13½ YEARS.—ENURESIS.

Mother complained that the boy had started to wet bed three or four times a week. The same thing happened when he was younger, but he had been free for some years. He was given Iodicin, two per week. At the end of two months mother reported that the trouble had ceased within two weeks of commencing treatment, and had not recurred.

CASE 28.—T.P.—BOY, 12 YEARS.

Suspected for some time of T.B., but diagnosis never definitely established (abdomen). Has improved considerably (Iodised Butter Scotch), and is still under treatment.

Apart from the foregoing illustrative cases, a great many other cases were treated, some quite successfully, others with indifferent results, and a few with no success.

New cases are continually coming under treatment, and in steadily increasing numbers. This will render it a matter of some difficulty in future reports, as only a certain number can be made use of for report purposes, and the increasing mass of material will make the selection of cases a matter of difficulty.

New vehicles for the administration of Iodine are constantly being tried ; at the present moment Iodine in Liquid Paraffin, and colloidal Iodine in Cod Liver Oil Emulsion, are on trial. The effects of the latter should be specially interesting to note, in view of the noted increased efficacy of both when given separately and administered concurrently.

The administration of Iodine in various forms is becoming more and more a routine method of treatment in the Clinics.

NOTES

BY

H. C. SIMPSON, L.M.S.S.A., D.P.H.,

Assistant School Medical Officer
(Maryport and Egremont Areas).

During the past year Iodised Butter Scotch was tried altogether in about 80 cases. Frequently it was given only after all the usual forms of treatment had failed or given unsatisfactory results, and in a number of cases extraordinarily good results were obtained.

There did not appear to be any indication as to which cases were likely to respond to this form of treatment and which not. Some cases which seemed to be eminently suitable were complete failures.

1. CHEST CONDITIONS (including Bronchitis and Asthma) as a whole did not appear to benefit to any extent.

2. SKIN CONDITIONS as a rule did very well.

3. GOITRE.—The local condition somewhat improved in about 50% of the cases, but all put on weight, and felt better for it.

4. INCONTINENCE.—Several apparent cures were effected and a number more were much improved. Several cases treated during the last 3—4 months appeared to derive no benefit whatever.

5.—RHEUMATISM.—One case was treated with some improvement.

6. CHILBLAINS.—Several cases benefited—one very much so.

7. One very backward boy responded very well, and was stated to have “been very much better at his work since taking the tablets.”

8.—One case of Chorea was treated at first with Syrup of the Iodide of Iron with slight benefit, and later, when given Iodised Butter Scotch, with great advantage.

CHILBLAINS.—"F.F." had been subject to this condition every autumn and winter for several years, and her hands were always blue and cold. She was put on Iodised Butter Scotch on 13/5/27, and a marked improvement in her general condition was noted the next time she attended the Clinic.

Treatment was stopped on 9/9/27, when she was told to return if there was any deterioration.

When last seen, in December, 1927, her mother stated that she was now better than she had been for many years.

Two other cases which were being treated for other conditions did not have Chilblains this winter as they had done previously.

WORMS.—Two cases, which had all the usual treatment by mouth and saline injections, undoubtedly benefited by Iodised Butter Scotch.

A boy, aged 7, came to the Clinic on account of an eczematous patch involving the posterior part of the scrotum, and extending backwards to the anus—it had been there for six months at least. His mother stated that he had no symptoms beyond a desire to scratch it.

Various forms of local treatment were tried without result. Finally Iodised Butter Scotch was given. His mother reported that the day following the taking of the first tablet he passed a motion "which was nearly all thread worms.

She had previously looked for worms, and had given "worm cakes," but had seen nothing. After two weeks treatment the skin condition had almost entirely disappeared, and no worms had been seen for a week.

IMPETIGO, SCABIES, ECZEMA.—"E.C.," Age 12.—When first seen, on 22/2/27, she had very severe Impetigo on her face, arms and upper part of chest following Scabies.

All the usual forms of treatment were tried, but as the Impetigo began to clear up, a very severe generalised Eczema, involving the same areas, followed it. This did not respond to any treatment till 10/6/27, when she was put on Iodised Butter Scotch.

Immediately there began to be an improvement, which steadily continued till when she was seen on 25/11/27, there was practically no sign of the condition remaining, and she was able to return to school, which she had not attended for several months prior to her first visit to the Clinic on 22/2/27.

PSORIASIS.—Iodised Butter Scotch has been combined with local treatment in about six cases, in four there was marked improvement, and in the other—after only six weeks treatment—there was slight improvement.

SEBORRHOEA.—Iodised Butter Scotch was tried in two cases which had not made much headway with ordinary treatment—in both there was marked and rapid improvement in the condition.

INCONTINENCE.—The results of treatment with Iodised Butter Scotch have been curiously irregular. Early in the year every case improved, and within 4—6 weeks several cases cleared up completely. From about August onwards the results have not been at all satisfactory ; nearly all have shown only a very slight improvement or none at all.

There have been three cases of interest. One provisionally reported upon last year, of a child who had no Incontinence for three days after each tablet, but had for the next two days till the next tablet was due. She was then given a tablet every three days, with the result that in about another month she had no further Incontinence of urine, and except for an occasional lapse, she had been clear for several months.

Another case of a boy aged 13, who had Incontinence almost every night and frequently during the day, after about three months' treatment he still had Incontinence one or two nights a week, but none during the day. It was also noticed that he was quite clear for three days after each tablet. He has recently been put on to one tablet every three days, but has not attended the Clinic since.

Another case reports that since taking Iodised Sweets he is quite clear of Incontinence for about three weeks, and then begins again, and is as bad as ever for a week. This is followed by another clear period of about three weeks, and then another week of relapse. So far nothing has been found to account for this.

Iodised Butter Scotch was tried in the following conditions, with the results shown :—

<i>Disability.</i>	<i>Apparently Cured.</i>	<i>Con- siderably Improved.</i>	<i>Slight Improve- ment.</i>	<i>No. Improve- ment.</i>	<i>No. Report Available.</i>
Incontinence	.. 6 ..	4 ..	3§ ..	5¶s..	8*
Goitre	.. — ..	5 ..	6† ..	— ..	—
" Skin Conditions" ..	12 ..	8 ..	5‡ ..	— ..	3*
" Chest Conditions "	— ..	1 ..	2 ..	6 ..	2

§ Two stopped treatment after two attendances only.

* Three attended for three weeks only.

¶ Attended only once or still under treatment.

† Three left school while under treatment.

‡ Four attended for one month or less.

APPENDIX C.

REPORT
OF THE
SCHOOL DENTAL OFFICER

For the Year ended 31st December, 1927.

By F. E. GILLIERON, L.D.S.,
School Dental Officer.



APPENDIX C.

I beg to submit to you my Annual Report for the year ending December 31st, 1927.

This is the first complete year of working under the new scheme mentioned in the Report of last year. Under this scheme the area Medical Officers pick out the most glaring cases of oral sepsis, and refer them to me. When a sufficient number of these cases is collected, the dental van is removed to a suitable central spot, and the children are brought in for treatment there. As was anticipated, this has resulted in a lowering of the numbers entered in the dental tables compared with previous reports, particularly under the heading of fillings. More time is taken up removing the caravan and dental outfit. The main feature in treating these urgent cases is to eradicate the thoroughly septic teeth, and fillings have to be confined pretty largely to the front teeth. In the absence of an assistant dentist, this is the best scheme we can adopt to cover the most ground in any year. It is far from satisfactory, as it cuts out the first principle of school dentistry, viz., regular examination and conservation of the natural teeth. Furthermore, it results in an undue proportion of my time being devoted to the Eastern and Central divisions of the County, whereas there is no question that the major problem of school dentistry lies West of Maryport. The time and expense of travelling so far is, however, against my spending more time in the Western area. Once again may I stress the urgency of the appointment of an Assistant to reside in the West, and provide a more continuous and satisfactory dental service for the children there, whose parents are in the majority of cases quite unable to afford relief for dental illnesses. Our services are much more appreciated by people living under these straitened circumstances, and an appointment such as recommended would be found to be an expenditure on a social service of real utility. Conversations with the parents of patients provide ample confirmation of this.

The following towns and villages have been visited during the year : —

Whitehaven (two visits)	Hallbankgate
Penrith	Lorton
Wigton	Embleton
Cotehill	Dovenby
Cumwhinton	Brigham

Scotby
 Warwick Bridge
 Brampton
 Bolton Low Houses
 Allhallows

Isel
 Bassenthwaite
 Setmurthy
 Braithwaite
 Oughterside

Aspatria and Cockermouth are at present under treatment.

The annual sum collected for fees from parents shows a considerable decline since these were raised from 1s. to 2s. 6d. per case, as per Minute of School Management Committee Meeting, held on 2nd March, 1923. It would appear that the financial return from a smaller fee of 1s. is greater than from the larger fee of 2s. 6d. In addition, the fees are paid by more people, and are on a more equitable basis. Under the present circumstances, when so many are out of employment, I venture to suggest that it would be more satisfactory for all parties if the fee were reduced to its original sum of 1s. In actual practice it is found that the return in fees varies considerably in different districts. Those districts who rely on agriculture as the main means of existence, always provide us with more fees than the districts relying on industries which are in a very depressed state generally.

In conclusion, I would like to mention the Head Teachers of Bolton Low Houses, Lorton, and Braithwaite for their especial keenness which they showed on the occasion of our visit. In Bolton Low Houses we treated every child in the school, and this highly satisfactory state of affairs was brought about by the individual keenness of the Head Teacher in using his personal influence with parents. The other two schools especially mentioned provided us with returns nearly as good as Bolton Low Houses. Our thanks are due to all Head Teachers for the trouble they have taken, but it was necessary to especially single out these for their zest.

I have the honour to be, Sir,

Your obedient servant,

F. E. GILLIERON, L.D.S.,

School Dental Officer.

APPENDICES D & E.

REPORTS
ON
PHYSICAL TRAINING

For the Year ended 31st December, 1927.

APPENDIX D.

REPORT ON PHYSICAL TRAINING FOR THE YEAR
ENDING DECEMBER 31st, 1927, BY MISS MARGARET
FRASER, CHIEF WOMAN ORGANISER.

Physical Training in Cumberland is making good progress, owing to the enthusiastic co-operation of the majority of the Teachers, who realise the principle that healthy mental work can more surely be expected when the brain is lodged in a healthy body.

STAFF.

I am glad to report that no changes have occurred in the personnel of the Staff during the year.

Miss Ostle is in charge of the Whitehaven (Rural), Maryport and Millom districts, and also teaches one day per week in Millom Secondary School.

Miss Hall is in charge of Penrith Urban and Rural districts, Cockermouth and Keswick, and also teaches twice a week at the Keswick school.

Miss Wisnom teaches four days per week in Alston and Brampton Secondary Schools, and the Thomlinson Girls' School, and spends one day per week organising in Elementary Schools in the Alston and Brampton districts.

<i>Centre.</i>	TEACHERS' CLASSES.					<i>Teacher.</i>
	<i>Number on Roll.</i>					
Workington	..	..	44	..	..	Miss M. Ostle
Alston	..	..	16	..	..	„ M. Wisnom
Cockermouth	..	..	20	..	..	„ N. Hall

Owing to transport difficulties, the Alston Class was held during the Summer. The attendance at Workington was not so satisfactory as in the other districts, on account of Influenza and other illnesses.

PLAYING FIELDS.

We look forward to the time, not far distant I hope, when every school in Cumberland will have the use of a field for Organised Games. Like most things of value, they are not obtained easily, especially in some districts, but the sympathetic attitude of the Committee should encourage renewed efforts on the part of Head Teachers and others responsible for the Welfare of the Children,

ORGANISED GAMES.

Very keen interest is taken in Organised Games, especially Net-ball, which has now reached a good standard.

There are EIGHT Net-ball Leagues in the County, comprising 124 schools, and the winners of these district leagues play off for the Championship of Cumberland.

DISTRICT NET-BALL LEAGUES.

<i>District.</i>	<i>Winning School.</i>
Carlisle Rural District	.. Great Orton
Penrith Rural	.. Culgaith
Keswick	.. Legburthwaite
Aspatria	.. Westnewton
Maryport	.. Maryport Council
Whitehaven	.. Egremont Girls'
Millom	.. Captain Shaw's, Bootle
Cockermouth	.. Dovenby

INTER-LEAGUE NET-BALL MATCHES.

First Round.

<i>Schools.</i>	<i>Where played.</i>	<i>Winning School.</i>
Great Orton v. Culgaith	.. Penrith	.. Culgaith
Westnewton v. Boltons	.. Aspatria	.. Westnewton
Maryport Council v. Dovenby	.. Broughton Moor	.. Maryport Council
Capt. Shaw's v. Egremont Girls'	.. Seascale	.. Capt. Shaw's

Semi-Finals.

Culgaith v. Westnewton	.. Keswick	.. Westnewton
Maryport Council v. Capt. Shaw's	.. St. Bees	.. Capt. Shaw's

Final.

Westnewton v. Capt. Shaw's	.. Whitehaven	.. Westnewton
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The Final Match was played on the Whitehaven Secondary School ground (by kind permission of Mr. Clifford). The game was somewhat disappointing, as both teams were too excited to play scientifically. After the Match, the Director of Education presented Silver Medals to the Winners—Westnewton Girls', and Bronze Medals to the Bootle team, and briefly pointed out that valuable lessons can be learnt from losing, as well as winning matches.

SPORTS.

There has been an increase in the number of Schools holding Sports of their own. Successful meetings have been held also by groups of schools combining.

Maryport Schools' Annual Sports were again held in Netherhall Park, kindly lent by Colonel Senhouse, and the excellent organisation and sportsmanship shown in previous years were fully maintained. Maryport National School gained the highest number of points, and so wrested the Championship from Maryport Council School, who won it last year.

Keswick Schools' Sports were also very successful, and much interest was shown by everybody present.

The combined Schools' Sports, held at Burgh, were so enjoyed by competitors and spectators that it has been decided to hold them annually.

SWIMMING.

Facilities in the County are limited. Wigton Girls' have made good progress at the Wigton Baths, and the open-air Swimming Bath at Culgaith has again been very popular, and of much benefit to the village. All the children are expected to be able to swim before they leave school.

Miss Hall reports that the children at Loweswater School are being taught to swim in a pool in the wood below the school, and as soon as a certain amount of proficiency has been attained, they will be taken to the lake.

FOLK DANCING.

The great interest taken in this subject was shown by the large attendance at the Folk Dance Festival, held at Cockermouth, in June. Cumberland is rapidly becoming one of the most enthusiastic Folk Dancing Counties, owing to the activities of the Cumberland Branch of the English Folk Dance Society, which has now been in existence eighteen months, and has become the parent of fifteen centres—classes attended by nearly 500 people of all ages and both sexes have been held in these Centres. This revival is beneficial to the schools, as a large number of teachers attend the classes, and qualify for certificates in Folk Dancing.

County Dancing was one of the subjects at Millom Musical Festival, and a number of children from Schools in the West of the County competed.

DEMONSTRATIONS.

A very successful Physical Training Demonstration was given by the Millom Schools on June 14th, in the Cricket Field, which was attended by a large number of spectators.

The programme included :—

	<i>Teacher.</i>	<i>School.</i>
Short Physical Training lesson for Infants	..Miss Harris	..Lapstone Road Infants
Do. Juniors	..Miss Nichol	..Haverigg Girls'
Do. Seniors	..Miss Hurst	..Holborn Hill Girls'
Junior Dancing ..	..Miss Almond	..St. James' R.C.
Senior Dancing ..	..Miss Coward	..Lapstone Road Girls'
Senior Boys' Drill	.. ———	..Lapstone Road Boys' ..
Do. Games	.. ———	..Holborn Hill Boys

The Director of Education presided, and at the conclusion thanked both teachers and scholars for the excellent exhibition of School work, which reflected great credit on everybody concerned.

SECONDARY SCHOOLS.

Miss Wisnom reports that the work in Alston, Brampton and Wigton Schools has made satisfactory progress during 1927.

The number of children attending the Thomlinson School has increased, so that there is now an additional gymnastic class in the afternoon.

Miss Perry, H.M.I., visited this School in July, and remarked on the benefit that the girls were gaining from the extra time now given to Physical Education.

A very marked improvement is evident in the work at the Keswick School. An excellent Form competition was held during the Summer term, showing that a good standard of work has now been achieved.

Miss Hall also reports that the Swimming at Keswick was very much hindered by the weather. Owing to the flood the bathing boxes were inaccessible for weeks. A Swimming Competition had been arranged, and although many of the girls had not been in the water more than five times, it was carried through, Miss Perry, H.M.I., who was visiting the County, acting as Judge.

Miss Ostle reports that progress is being made at Millom Secondary School. Miss Perry, H.M.I., visited this School in the Autumn term, and remarked that good use was being made of the Physical Training lesson.

VISIT OF H.M.I., MISS E. M. PERRY.

Miss Perry, H.M.I., visited Cumberland in July, and spent four days in Whitehaven, Keswick and Cockermouth districts. She was also present at the final match of the Whitehaven District Net-ball League, and congratulated the teams on their good standard of play.

Miss Perry re-visited the County in the Autumn, inspecting the work in Alston and Millom Secondary Schools, and one or two Elementary Schools in Alston and Cockermouth districts.

MARGARET FRASER,
Chief (Woman) Organiser.

APPENDIX E.

REPORT OF THE CHIEF (MAN) ORGANISER OF
PHYSICAL TRAINING

(Mr. W. S. GRAY).

I am pleased to report that the teachers in general are fully alive to the importance of Physical Education, and show their interest in many different ways.

One of the most pleasing features is their ready co-operation with the Organisers, whose advice and help they always accept in the right spirit, and as far as is possible act up to their suggestions.

Staff.

I am glad to report that the Staff remains the same. Mr. Smith organises in the Elementary Schools of the Millom District, and teaches in Whitehaven, Millom and Workington Secondary Schools; while Mr. Iceton teaches the boys of Keswick, Wigton and Brampton Secondary Schools, and acts as Organiser to the Elementary Schools in the Cockermouth district.

Playing Fields.

The number of Playing Fields keeps gradually on the increase. At present 128 schools have Playing Fields, the Committee paying a small rent for 53, the other 75 being free.

In connection with these fields we are deeply indebted to Head Teachers and Schools who pay the whole rent; to those who pay half; and also to Football Clubs, Committees of Miners Welfare Schemes, and Local Councils, who give facilities free.

Swimming.

Under the new Instructor, Mr. J. G. Fell, the children of Wigton Elementary Schools are making good progress. The following number of children are attending the baths:—

<i>School.</i>		<i>Boys.</i>		<i>Girls.</i>
Wigton National School	39	..	49	
Wigton R.C. School	23	..	29	

Cumberland Schools Football Association.

In the Cricket Field, Whitehaven, on Friday, 8th April, Montreal Boys, Cleator Moor, won the County Shield, Maryport National being "runners-up." Geo. Palmer, Esq., pre-

sented the Shield and Medals. The National School, Maryport, for the third time in succession, won the Local School League Championship ; while Lowca gained premier honours in the Derwent Valley League. At Keswick, Crosthwaite Boys won the Shield, Borrowdale securing the Spedding Cup.

Demonstrations.

At Millom, on Tuesday, 14th June, quite an enjoyable demonstration of Physical Training, Games and Dancing, was given by children from Lapstone Road Schools, Holborn Hill Schools, St. James and Haverigg Girls' School. There was a large attendance of local Managers, parents and teachers. G. B. Brown, Esq., Director of Education, complimented the teachers on their work, and thanked all those who had helped to make the demonstration a success. On Monday, July 11th, the two Aspatria Schools combined to give a Demonstration of Physical Exercises, Infants' Dances and Games, and Games and Dances by the Senior Scholars.

On Friday, 16th December, the boys of Brampton Council School gave their Annual Concert. Half of the programme was devoted to Physical Training and Folk Dancing, which was much appreciated by a large audience.

Sports.

The following schools organised Sports Days :—

<i>School or Schools.</i>	<i>Date.</i>	<i>No. of Competitors.</i>
Blackford	.. 7th June, 1927 ..	70
Keswick Schools ..	.. 29th „ „ ..	450
Hallbankgate ..	.. 2nd July, „ ..	150
Maryport Schools ..	.. 6th „ „ ..	400
Burgh Schools ..	.. 8th „ „ ..	200
Aspatria Schools ..	.. 8th „ „ ..	300
Bassenthwaite ..	.. 8th „ „ ..	60
Harrington Schools ..	.. 15th „ „ ..	300
Raughton Head ..	.. 16th „ „ ..	60
Cockermouth Schools ..	.. 25th Aug., „ ..	450
Lowca	.. 27th „ „ ..	150
Dearham	.. 31st „ „ ..	300
Brampton Boys' ..	.. 7th Sept., „ ..	100
Gilcrux	.. 9th „ „ ..	70
Little Clifton ..	.. 28th „ „ ..	200

At Keswick, where the Sports were a great success, Crosthwaite Girls' secured the Girls' Trophy, and St. John's-in-the-Vale carried off the Boys' Cup. The National School

won the Shield at Maryport, where the Sports were managed in the usual efficient manner. Kirkandrews, Kirkbampton, Great Orton and Burgh Schools combined forces, and had a most enjoyable afternoon, Burgh winning the Shield. Aspatria had their first Sports, the "Blue" team gaining 55 points, won the Handsome Shield. As in former years, there was keen competition at Cockermouth. There were exhibitions of Folk Dancing at Maryport, Bassenthwaite, Harrington, Cockermouth, Lowca and Dearham.

Cumberland and Westmorland Wrestling.

The Second Annual Schoolboys Wrestling Competition for the Hough Watson Challenge Shield took place again at Braystones, Beckermet, on Saturday, 28th May. The following Schools entered teams of five boys:—Waberthwaite, Beckermet, Seaton, Montreal, Bookwell, Bassenthwaite, Crosthwaite, Broughton Moor, Calderbridge, Lamplugh Parochial and Dearham. The entry was smaller, but the competition was much keener than last year, the boys giving an excellent exhibition of good, clean wrestling. The following was the order of merit of the best four teams:—

<i>School.</i>					<i>Points.</i>
1st Cleator Moor Montreal Boys'	..	..	..	..	15
2nd Bassenthwaite	..	..	..	..	14
3rd Egremont Bookwell Boys'	..	..	..	..	14
4th Seaton Camerton	..	..	..	..	14

The three teams tying with 14 points wrestled for second place, Bassenthwaite being successful. The spectators were very interested, especially in the boys who were sons of old champions. The High Sheriff, Brigadier-General Spedding, presented the Shield and Medals to Montreal, and Runners-up Medals to Bassenthwaite. He complimented the boys on their general efficiency and fine team spirit.

Athletic Efficiency Test.

This year an effort has been made by Organisers of Physical Training throughout England to secure reliable information regarding the athletic ability of the normal school boy. Two events were taken this summer, namely, Standing Broad Jump and Throwing the Cricket Ball. Boys at Silloth, Allhallows, Dearham, Moresby, Brampton, Lapstone Road, Brigham (Keswick), Arlecdon, Fairfield and Bookwell Schools have gone through the tests, and below are the results:—

<i>Standing Broad Jump.</i>	<i>No. put through test.</i>	<i>Average.</i>
Boys of 10 years of age ..	128 ..	.. 4 feet 6 inches.
„ 11 „ ..	143 ..	.. 4 „ 9 „
„ 12 „ ..	143 ..	4 „ 11 „
„ 13 „ ..	150 ..	.. 5 „ 4 „

Best performance—6 feet 6 inches, was done by 1 boy at Bookwell, 2 boys at Dearham, and 1 boy at Brampton.

<i>Throwing the Cricket Ball.</i>	<i>No. put through test.</i>	<i>Average</i>
Boys of 10 years of age ..	124 ..	.. 30 yards.
„ 11 „ ..	142 ..	.. 34 „
„ 12 „ ..	151 ..	.. 37 „
„ 13 „ ..	154 ..	.. 42 „

Best performance :—

1 Boy at Lapstone Road threw 65 yards.

1 Boy at Arlecdon threw 60 „

3 Boys at Lapstone Road threw 60 „

It should be noted that these were not selected boys, every boy being asked to try in his own age group.

Secondary Schools.

Little or no change has taken place in Physical Training at the Secondary Schools, although it is pleasing to learn that more time is being given to preparation for the Annual Sports Day.

New Gymnasium.—A splendid gymnasium has been built at Wigton Nelson School. It is a nice distance from the main school building (although in the school grounds), and will be much appreciated by the boys attending that school, as Physical Training in a central hall is never a success ; the strain on pupils and teacher of constantly trying to avoid any noise spoiling all enjoyment.

EVENING CONTINUATION CLASSES.

	<i>On Roll.</i>	<i>Teacher.</i>
Penrith	.. 30 ..	Mr. Hargreaves
Whitehaven (Junior)	.. 10 ..	Mr. F. Smith
„ (Senior)	.. 16 ..	Do.
Cockermouth	.. 18 ..	Mr. Warburton
Dearham	.. 23 ..	Mr. Dobson
Harrington	.. 10 ..	Mr. W. L. Smith
Parton	.. 30 ..	Do.
Moor Row	.. 27 ..	Mr. J. Haile
Brigham (Cockermouth)	.. 14 ..	Mr. J. Charlton
Aspatria	24 ..	Mr. Hewitson

The above list of classes is a record, which is very encouraging. There are few centres without a Physical Training Class for students this winter, and I hope that in the near future classes will be formed at the Maryport, Workington, Keswick and Millom centres.

TEACHERS' CLASS FOR MEN TEACHERS.

The following class was held this year :—

	<i>On Roll.</i>				<i>Teacher.</i>
Penrith	..	..	14	..	.. Mr. W. S. Gray

The above class finished with a demonstration in the Penrith Grammar School Gymnasium, which took the form of :—1, a lesson for boys ; 2, a lesson for a mixed class ; and 3, a games lesson.

W. S. GRAY,

Chief (Man) Organiser.

APPENDIX F.

WHITEHAVEN COUNTY SECONDARY SCHOOL.

MEDICAL REPORT FOR 1927.

To the Governors of the Whitehaven County Secondary School.

LADIES AND GENTLEMEN,

Four-hundred-and-sixteen routine examinations have been made during the year 1927, in addition to an unusual number of casualties which have been attended to each term. These examinations are divided into Primary, numbering 94, and Re-examinations, which amount to 322.

The Primary examinations are the ones made on the new pupils admitted during the year. Only 26 of these can be designated as perfectly normal, which is a small percentage. This is, of course, partly to be expected, seeing the age at which the children enter school. I am glad to notice the percentage of normal cases is much higher in the re-examined cases.

Tonsils.—No less than 51 of the 94 pupils have tonsils larger than normal. Twenty-nine of these, however, are cases which, so far as can be judged, give rise to no untoward symptoms, and need only to be watched. Most of them will probably not give rise to any trouble, but it is as well they should be noticed, and observations made from time to time concerning them. Of the remaining 22, four are marked as definitely unhealthy tonsils, and the other 18 all give some history of tendency to contracting colds or sore throats. These 22 will have been referred to their medical attendants with the necessary observations. There were three of the new pupils who had had their tonsils satisfactorily removed.

General Physical Development.—Thirty-six pupils have been noted as being below normal in general physical development. This seems a rather high percentage, but, again, for new entrants I do not think it is above the usual average. The association of this condition with other abnormalities is very marked—no fewer than 15 are associated with enlarged tonsils and adenoids, and in two other cases, though the tonsils had been removed, the physical development was still not satisfactory. Improvement in these two cases may reasonably be expected. Two cases were associated with defective eye-sight, and another with old healed Tubercular Glands in the neck.

Teeth.—There are an enormous number of cases of bad teeth in the school, 34 of which are in the new pupils alone. If we can get these cases treated early, and have kept them under observation, I feel confident considerable improvement in the general health of the school will be found to occur. Only three cases could be found where thorough treatment had previously been given, and only one case could be noted where the teeth were really good without treatment.

Eyes.—Ten cases of defective vision were found, and one of Blepharitis (inflammation of the eyelids), and one of Conjunctivitis and one of "Squint." The Blepharitis case professes to have been tested for error of refraction and complains of having headaches. I have recommended, therefore, that the eyes should be re-examined. The squint case obviously needs glasses, and has had them previously, but does not use them. In this case also I have urged the wearing of glasses and re-examination. The remaining cases have received attention.

Lungs.—Four cases have been found to show some defect, and are being kept under careful observation. No case of acute or infectious or tubercular disease was found.

Heart.—Only two cases of heart abnormalities could be discovered—one was organic, and though doing its work satisfactorily, the heart will have to be kept under strict observation. The other case was functional, and temporary, due to slight overstrain.

Goitre.—There was only one case of Goitre, and this was in a boy. It was distinct, but not large.

Skin.—There were no cases of infectious or contagious skin disease. A slight case of nettle rash, and another slight irritating non-contagious rash was all that could be found.

Miscellaneous.—Three cases of tubercular disease were found—one a healed foot, and the other two had been operated upon for glands in the neck. One child had had his appendix removed, and another had a tendency to "rupture," which must be watched carefully. There were five cases of Anæmia, and one (a girl) who stammers. This last, in a new pupil, should be taken in hand.

Re-examinations.—This means examination of all the pupils in the school except the new entrants of 1927. Out of the 322 examinations which were made, one-hundred-and-thirty-eight have been considered quite normal. As the examination has been a somewhat strict one, I consider this

is quite a good average, and though not as good a percentage as last year, it is well above that of previous years. I am very much struck with the good physique of most of the pupils. I have not allowed defective teeth to exclude a pupil from this classification.

Teeth.—No fewer than 147 have defective teeth in some degree. This is a very high percentage—nearly 50%—and I think it calls for great consideration. If it could be arranged that all these cases could be attended to, I feel sure a great deal of ill-health—possibly only minor ailments, but yet enough to handicap pupils in their work and lower the average attendance—would be prevented.

Of the 147, so far as I could ascertain, 101 are freshly noted cases—no fewer than 63 have been wholly or partially attended to and 21 are cases which have been previously noted and ignored. There were 5 obvious cases of Pyorrhœa. This dental question, to which I called attention last year, is, I think, a very important one.

Tonsils and Adenoids.—There are 90 cases noted of enlarged Tonsils or Adenoids. I have endeavoured to divide these up into cases which give rise to no bad symptoms, and those which have frequent colds, sore throats, etc., *i.e.*, those which do not apparently need operation, but should be kept under observation, and those which probably need operation. Fifty-five come under the first heading, and most of them will come under observation during the examination of 1928. The remaining 35 report themselves as being subject to colds or sore throats, or are “mouth breathers,” etc. I only found four cases where the tonsils had been previously removed, and one of those was only partial removal or had recurred.

Eyes.—There were two cases of definite blindness in one eye. Both cases I have examined more than once to see that the remaining eye is satisfactory; in one of them the wearing of a lens is a necessity. There were eight cases with external abnormalities, *i.e.*, two with Meibomian Cysts, three with Squint, two with Blepharitis (inflammation of the lids), and one with Conjunctivitis. Some of these were associated with errors of refraction, and the wearing of spectacles is necessary. There were 42 cases needing glasses—most of them already wear “lenses,” and those who do not have been recommended to see their doctor, with a view to their eyes being tested. Whilst, on the whole, glasses are worn and

valued by the wearer. I found a few cases who had them and definitely needed them, and yet did not, or would not, wear them. This is a very serious condition to neglect, and I have drawn special attention to them. There were other cases in which I found that the sight having altered—for better or worse—unsatisfactory glasses were being worn. These were recommended for re-examination and further attention. This is a most important branch of the school examination.

General Physical Development.—As in the case of the Primary examinations, I have tried to analyse the 39 cases notified under this heading. I find that 15 are associated with enlarged tonsils, of which two have also defective eye sight; and 5 have defective eyesight, two of which are included also under the list of enlarged tonsils. Two others are the result of rickets in childhood, but are otherwise normal and healthy; two have heart abnormalities, and there are 17 others who, apparently, have no accompanying defect to cause the poor development. One has had tonsils removed. There is no doubt that the ordinary and special physical drill and exercises given at the school will improve many of these abnormalities, and before they leave probably eradicate the weakness altogether.

Heart.—I am surprised to find no fewer than 18 pupils with suggestive signs of organic heart trouble. At the time of examination nearly all these cases gave no outward sign of trouble, and were only found as a result of the examination. I hesitate to say that all these cases are due to organic disease, but knowing (1) how insidiously cases of acute rheumatism may come on in childhood, and (2) the necessity of early care of such cases, I have made a special note and report. In certain cases I have found it necessary to stop all games, etc., and it is my intention to re-examine all cases.

There were only five cases noted of functional heart disorder due to anæmic or temporary overstrain. Two cases of heart abnormalities noted on previous examinations are now found to be normal.

Lungs.—No cases of Pulmonary Tubercle were found, but one has had to be kept specially under observation, and another case has been noted as having had a recent attack of Pleurisy.

Another girl has been re-examined on account of the report of her condition in 1926, and has been found free from disease.

Goitre.—Only eight cases of Enlarged Thyroid have been found, and none of any decided moment—two are definite and probably permanent, but not large, and the rest are slight, and do not call for comment or treatment. One previously reported enlarged is now normal. This is a very great improvement on a few years ago.

Skin.—Only two doubtfully contagious skin troubles were found, and these were immediately and effectively dealt with. The remaining nine cases were harmless and were as follows :—Acne (3), Petechial Rash (1), Eczema of Face (1), Psoriasis (1), nævus (1), and Urticaria (2).

Miscellaneous.—There were eleven cases reported of Anæmia, but none were of very severe type, and all should be cured by a short course of treatment. No fewer than eight pupils had had operations for Appendicitis, and three of these had evidently been of such bad nature that I have had to take special observations of them, and stop games and violent exertion of any description.

There was one case of Nasal Obstruction, and one of marked Deafness. Another pupil had had an operation for Hammer Toe with excellent results, and another had a "Ganglion" on her ankle, which might subsequently have to be operated upon. Four cases had to be noted as abnormally and dertimentally fat, and another four, at least, were suffering from excessive "Nervousness," one of whom was reported as having just recovered from a nervous breakdown. Finally, I note under the re-examination cases four as suffering from "Stammering."

The number of Dental cases calls for special mention. If treatment can be obtained for these cases, I feel sure the general health of the school will be improved.

I am very much struck with the number of heart cases in this report, but do not feel justified in making too definite a statement concerning them. After further examination I may be able to report more fully and favourably on the cases—many of them may prove not to be "organic," and the signs may disappear.

With regard to the general health of the school, it would seem to me to be good. The Headmaster has, however, reported to me that "sickness" has, this term, lowered the attendance very seriously, and he has asked for my observations on the point. It must, of course, be admitted that

this is *the* term of the year when epidemics and sickness are most rife. A certain amount of non-attendance is, therefore, inevitable whatever precautions are taken. A day school is, of necessity, also somewhat handicapped in that many pupils come from a distance. These pupils will probably make a very hurried breakfast, or perhaps in some cases get little or none. They will then have to rush off frequently in the wet, and wait about damp, in or for buses or railway trains, and finally sit about in school in damp clothes, etc.

Possibly again the rushed breakfast, and no meal until dinner, *i.e.*, 1 p.m., is rather a long fast. Again, being day boarders, they may not observe regular hours; they may go to bed late, and possibly also go to see the "Pictures." In any case there is no doubt that Picture Palaces, buses and railway trains are the origin of many infectious cases.

The school buildings would appear to be in a healthy condition, though I think it is possible the classrooms may at times get too hot. If this is so, the rushing out during the intervals from these hot rooms outside into the sudden cold and wet cannot be good.

I am, personally, not satisfied that "the huts" make good, healthy classrooms.

I would suggest the following as possible preventives:—

Circularise parents, anyhow in the January term, if not every term, pointing out the serious loss to the pupil by the number of absences from school, especially during the January term, and urging that the children (1) should not go to Cinemas during the term; (2) should not be allowed to stay up late at night; (3) should eat a good breakfast before leaving home and not hurry over same. (The keeping out of trains and buses is impossible).

I consider the idea suggested by the Headmaster is an excellent one—namely, that milk and biscuits should be given out in the middle of the morning, anyhow, where considered necessary, and possibly only for the January term.

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